Micro Pocket DVR I

User's Manual

Version 2.0.3
2008-09-30

CAUTION!!!

Read this User Manual carefully. There are no user serviceable parts inside. Removing the end plate screws will void your warranty. If your Micro Pocket DVR I requires servicing, please contact your authorized distributor or factory.

Do not use the Micro Pocket DVR I to power other devices other than a single camera!!

This document is a work in progress and reflects only the version of the Micro Pocket DVR I device.

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1. Introduction

1.1 Introduction of Micro Pocket DVR

Micro Pocket DVR is a dedicated battery powered Digital Video Recorder designed for portable, mobile Video and Audio Recording applications. The Micro Pocket DVR hardware system uses ARM9 processor and advanced hardware MPEG-4/2 video encoder, CF slot, charging circuit, vibration/alarm circuit, video capture, Multi-Connect camera/microphone interface and MCU designed on board. The MCU is used to process remote control, push buttons, power management, LANC and alarm. CF slot can support CF with FAT32 files system. Recorded video on CF card can be replayed on a PC instantly.

The OS of Micro Pocket DVR is Linux. It handles multiple tasks in real time, for example; driver, recording, AV synchronization, file management and external events etc.

The common Compact Flash card is used as a storage medium. The CF card is a solid storage media with the best anti-shock capability available today. It is also low powered and provides fast speed with multiple diversity options. It is very good choice for mobile DVR applications.

Micro Pocket DVR offers two encoding formats, MPEG-2 for DVD and MPEG4 for archive and streaming video.

1.2 MPEG-2

MPEG-2 is a standard for generic coding of video and audio. It is widely used in consumer electronics, such as DVD video disc, DVD player, DVB television broadcasting etc. The Micro Pocket DVR can record in MPEG-2 format which can be edited by any video editing software or replayed by DVD player.

1.3 MPEG-4

MPEG-4 is the awesome new generation video standard with better video quality and higher compression rate. For exceptional disc space saving, MPEG-4 is capable of creating highly compressed video archives on a regular CD-ROM with almost the same quality of DVD. One popular MPEG-4 format is DivX. It is the only technology that

enables streaming of video on the internet possible. Now, many DVD players can play DivX files directly.

1.4 Features

- ✧ Battery powered for portable, mobile DVR applications
- ✧ Intelligent and uninterrupted battery and AC power swap in real time
- ✧ Capture Video & Audio live from any composite video output
- ✧ Support MPEG-4/2 video format for longest record time
- ✧ Video Bit Rate : 1M~8Mbps
- ✧ Frame Rate : PAL(25fps), NTSC(30fps)
- ✧ Support PAL/NTSC/SECAM standard
- ✧ Resolution : Full-D1, CIF/SIF (1M Bitrates)
- ✧ Supports Single File & Full Disk Cycle Record Mode
- ✧ Supports ADPCM Audio Format
- ✧ Supports Volume Gain adjust of Microphone
- ✧ Audio Sampling : 8/16/32/48KHz
- ✧ On-board IR remote controller
- ✧ LANC remote controller support
- ✧ AC adapter or Internal Li-Ion Rechargeable Battery
- ✧ On-board battery charging circuit
- ✧ Offers power for camera & MIC
- ✧ Changeable CF Flash Card to save video
- ✧ Multi-Color LED for status
- ✧ Micro Vibration Motor or Beep status warning
- ✧ Motion Detection support
- ✧ OSD and RTC
- ✧ Optional Lap Timer
- ✧ Palm sized
- ✧ Only 160g weight with battery and CF card
- ✧ Video/Audio input
- ✧ Linux OS and upgradeable firmware
- ✧ Support Windows 98/ME/NT/2000/XP/Vista for Playback

1.5 Product and Accessories

Micro Pocket DVR	1pcs
AC Power Adapter	1pcs
Recharge Li-ion Polymer Battery (Internal)	1pcs
IR Remote Control	1pcs
Network Sync Cable	1pcs
Multi-Connect Jump Cable	1pcs
External Beacon Receiver (Only for Lap Timer	1pcs

Edition)

**** Power adapter and battery are for Micro Pocket DVR only and don't use any other power adapter and battery instead in case of damage.***

**** When you connect AC power adapter to charge internal Li-Ion battery but don't record, please enable Power-Off option to decrease heat of Micro Pocket DVR & protect Micro Pocket DVR.***

2. Installation

2.1 Preparation

Please read user's manual careful before installation. Check the minimum requirements of system and recommended system configuration.

2.1.1 Micro Pocket DVR Configuration

- ✓ Network Sync Cable
- ✓ SanDisk Ultra II CF card, 512MB minimum

2.1.2 PC configuration for replay

- ✓ CPU : Pentium III 1G and above
- ✓ RAM : 512MB and above
- ✓ DVD Recorder : DVD±R/RW
- ✓ OS : Windows 2000 (SP4), Windows XP (SP2), Vista
- ✓ HDD : 7200RPM, 10G free space
- ✓ Display : 1024x768 and above, 24/32 bit color depth
- ✓ Graphic Adapter : Support DirectX 9.0c
- ✓ NIC Adapter : 10/100 base-T Ethernet Adapter on PC or Switch/HUB with MDI/MDI-X support
- ✓ USB : One free USB 2.0 host interface
- ✓ Card Reader : one high speed USB 2.0/1394 card reader

2.2 Installation Guide

2.2.1 Before Installation

1) Check all accessories and CF card
2) Format CF card with FAT32 file system if it is new
3) Check power adapter and battery
4) Check whether PC and peripherals match the recommended configuration

2.2.2 Installation

1) Make sure power switch is in off position
2) Insert CF card into CF slot on Micro Pocket DVR
3) Connect camera properly

2.2.3 Startup

1) Connect AC power adapter
2) Micro Pocket DVR will start self-diagnostics when power on
3) The LED is red in self-diagnostics and will turn yellow on start-up. The LED turns to green once start-up successful.
   It takes about 12 seconds to startup
4) The LCD displays **Init...** during startup, after startup successful, the LCD will display **Pocket DVR**
5) You will hear a beep one time once Micro Pocket DVR start-up
   The Vibration Motor will vibrate one time once when Micro Pocket DVR start-up successfully *****
6) The battery will be charged automatically when power on and LED turns on red

The battery should be fully charged before first use. The charging LED goes out once charge finished.

Please charge the internal Li-Ion Polymer battery over night & until the charging LED goes out. Li-ion Polymer rechargeable battery is expendable.

The battery should be replaced after 500 charge cycles. The used battery should be disposed properly.

**** The Beep & Vibration Motor is only one in Micro Pocket DVR, the Beep is standard part, and Vibration Motor is optional only for special model.***

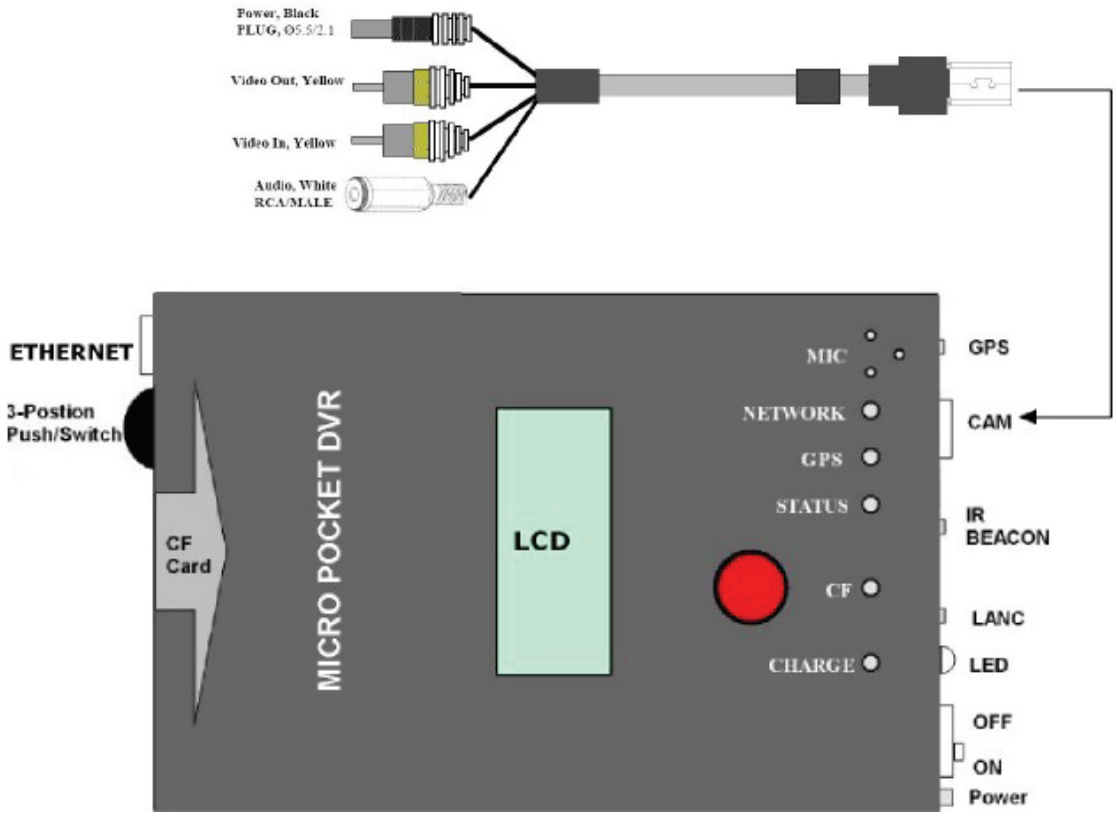
2.2.4 Safety and Warning

**** Never connect Multi-Connect Cable Power output to any power adapter. It may be damage the interface and board.***
**** There are no user serviceable parts, please do not open the unit. Doing so can damage the unit and will void your warranty.***
**** Restrict input voltage to range from 9V to 15DC, 12V DC is recommended. Never apply DC voltage beyond this range or AC voltage to the Micro Pocket DVR.***
**** Only use AC power adapter supplied with the unit. Do not use third party AC power adapter, it may cuase unexpected problems or damage.***
**** Restrict powering devices drawing more than 200mA current for 1CH Micro Pocket DVR.***
**** Restrict powering devices drawing more than 700mA current for 4CH Micro Pocket DVR.***
**** When Micro Pocket DVR powered by internal battery, don't connect camera more***

than 1pcs.

**** Never insert and remove CF card while power is on.***

2.3 Connect Video/Audio signal & Monitor to Micro Pocket DVR I



2.4 Video and Audio Interface

If the Micro Pocket DVR is configured RCA video interface & standard 3.5mm audio jack, the colors correspond to:

Yellow RCA Interface	-	Video Input/Output
Black 3.5mm Jack	-	Audio/Microphone
Black 3.5mm Plug	-	Power Output

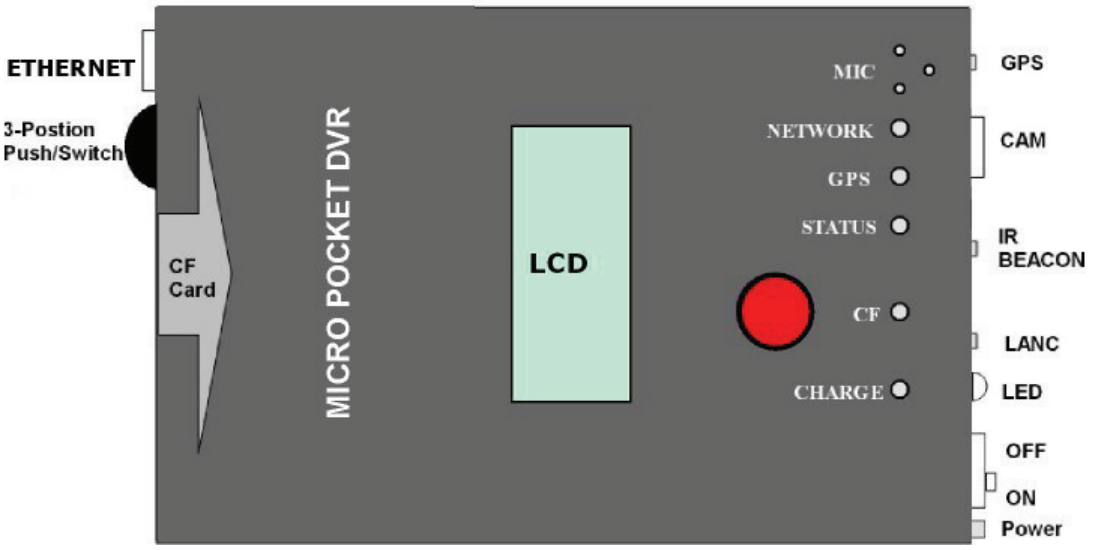
2.5 Button/Bullet Camera Interface

Some button cameras can connect to Micro Pocket DVR directly without the jump cable if the interface of button camera conforms to the Multi-Connect interface in Appendix.

2.6 Eject CF Card

1) Wait until the LED turns green
2) Disconnect power adapter & Switch off power from the internal battery
3) Eject CF card

3. Operation of Micro Pocket DVR



Micro Pocket DVR I

3.1 Quick Start

No configuration is required to start recording with the Micro Pocket DVR.

The operation of the Micro Pocket DVR is quiet simple. There are two push buttons, REC button and 3-Position switch. An LED is used to indicate the status of operation.

3.2 Push Button

3.2.1 RECORD

Press the (REC) button on top of Micro Pocket DVR for at least one second to start recording.

The LED will flash red and you will hear three beeps.

The flash frequency is about 3 times per second. Slower flash frequency means no video signal is connected.

3.2.2 STOP

Press the (STOP) 3-Position button for at least three seconds to stop recording. The LED turns to green & you will hear 2 beeps.

It will take a short while to save buffered data after stopped. The power can not be turn off until the LED changes to green. Early eject the CF card will cause destroy of video file integrity. Disconnect AC power adapter and switch off battery before eject CF card.

3.3 Infrared Remote Control

Infrared remote control is optional for Micro Pocket DVR.
Three buttons are defined currently:

Start recording

Stop recording

Keep pressing to make Micro Pocket DVR in Standby/Wakeup mode

3.4 LANC Remote Control

The Micro Pocket DVR support multi-version LANC Remote Control, please power off Micro Pocket DVR & unplug AC Power adapter, then plug LANC remote control into LANC jack with logo.

NOTE : SkyTools CamEYE SPORT LANC Remote Control V1.4 & V1.6 are supported by the Micro Pocket DVR.

Power on the Micro Pocket DVR, after booting is finished, you can control the Micro Pocket DVR start/stop recording using LANC remote control. And you can power off Micro Pocket DVR & power on it again.

After the Micro Pocket DVR starts successfully, the status LED on LANC remote control will display green. Press the button on the center of LANC to start recording, and the status LED on LANC will flash red & the unit beeps 3 times once started successfully.

Press button again, the Micro Pocket DVR will stop recording; the status LED on LANC turns to green.

Holding the button on LANC for approx 3 seconds untill the status LED on LANC flashes red. This will power down the Micro Pocket DVR, when the Micro Pocket DVR powers down, the status LED on LANC turns to yellow.

In power off status, press button on LANC to power up the Micro Pocket DVR again.

NOTE : DO NOT PLUG OR UNPLUG LANC REMOTE CONTROL WHEN MICRO POCKET DVR POWER ON & AC POWER ADAPTER IS CONNECTED !! YOU MUST POWER DOWN THE MICRO POCKET DVR, UNPLUG AC POWER ADAPTER, THEN PLUG/UNPLUG LANC REMOTE CONTROL.

3.5 Video Quality

LQ: Record video using 1Mbits/s & video based on CIF/SIF resolution.
EP: Record video using 2Mbits/s.
LP: Record video using 4Mbits/s.
SP: Record video using 6Mbits/s.
HQ: Record video using 8Mbits/s.

The recorded file size is dependent on the complexity of movement objects. The following is the estimated recording time:

LQ : 100 min/GB
EP : 60 min/GB
LP : 40 min/GB
SP : 20 min/GB
HQ : 15 min/GB

Larger storage cards can yields longer recording time and better picture quality. For example, current capacities of CF card on the market are from 512MB to 16GB. 4GB CF cards can record 4 hours in EP mode.

EP mode is recommended for slower moving or still background scene with some moving objects in front. SP mode is recommended for fast moving background scenes.

3.6 Video File Name

Recording video file name starts with DVR_ by default. The file name will be **DVR_xxx.avi**. XXX is incremental from 000 to 999. The prefix

DVR_ can be modified in Micro Pocket DVR Desktop software.

4. Micro Pocket DVR Status

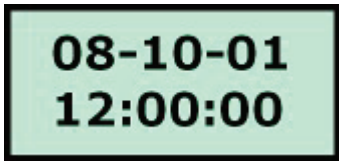
4.1 Status of Micro Pocket DVR

- Power up: LED is yellow for less then 1 second.
- Self diagnostics: LED is red for about 10 seconds.
- Normal: LED is green. Means it is ready to record.
- Recording: red LED will flash about 6 times/second.
- CF full: yellow LED will flash.
- Battery Low: Recording is stopped automatically. LED flash 4 times and enters sleep mode
- Standby: LED is yellow. Only the REC (POWER) button or LANC can wake it up.
- No Video: LED will slowly flash red whilst trying to record.

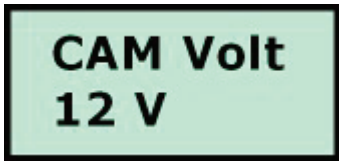
4.2 Preview System Information via Shortcut Key

When Micro Pocket DVR starts successfully, you can turn 3-Position switch to LEFT/RIGHT or UP/DOWN to preview system information of Micro Pocket DVR.

Turn 3-Position switch to LEFT once to display current date & time on Micro Pocket DVR.

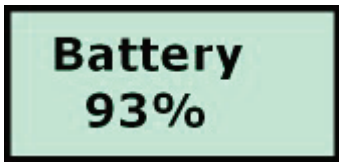


Turn 3-Position switch to LEFT twice to display current output power voltage for external camera.



Turn 3-Position switch to RIGHT once to preview current profile item & available storage space on CF card that insert into Micro Pocket DVR.

Turn ◖ 3-Position switch to RIGHT twice to display current energy of internal Li-Ion Polymer battery.



5. Replay Video

5.1 Software

It is simple to replay video recorded on CF card. Media player can play the video files directly within Windows.

DivX Codec or player has to be installed if no related components are installed on PC. You can download DivX decoder from internet & install it. We recommend the use of VLC media player which can be downloaded for free on the internet.

5.2 Card Reader

High speed card readers are recommended for read and replay of recorded video. If the card reader is fast, your PC can replay video instantly from the CF card without coping video file to PC hard disk first.

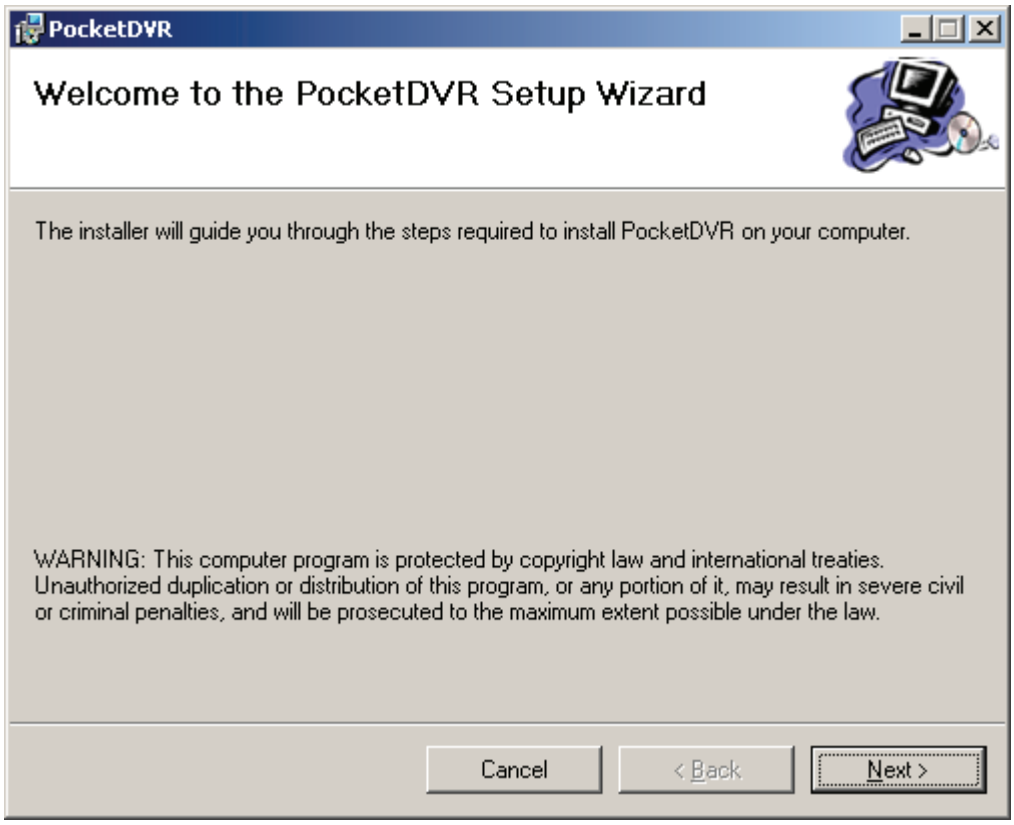
5.3 PCMCIA Interface

Most laptops have a PCMCIA interface. CF card with a PCMCIA adapter can be read directly by Laptops with this interface. Please select feat PCMCIA-CF Adaptor to copy the video files to PC and then replay the video files because PCMCIA is relatively slower.

6. Install Micro Pocket DVR Desktop

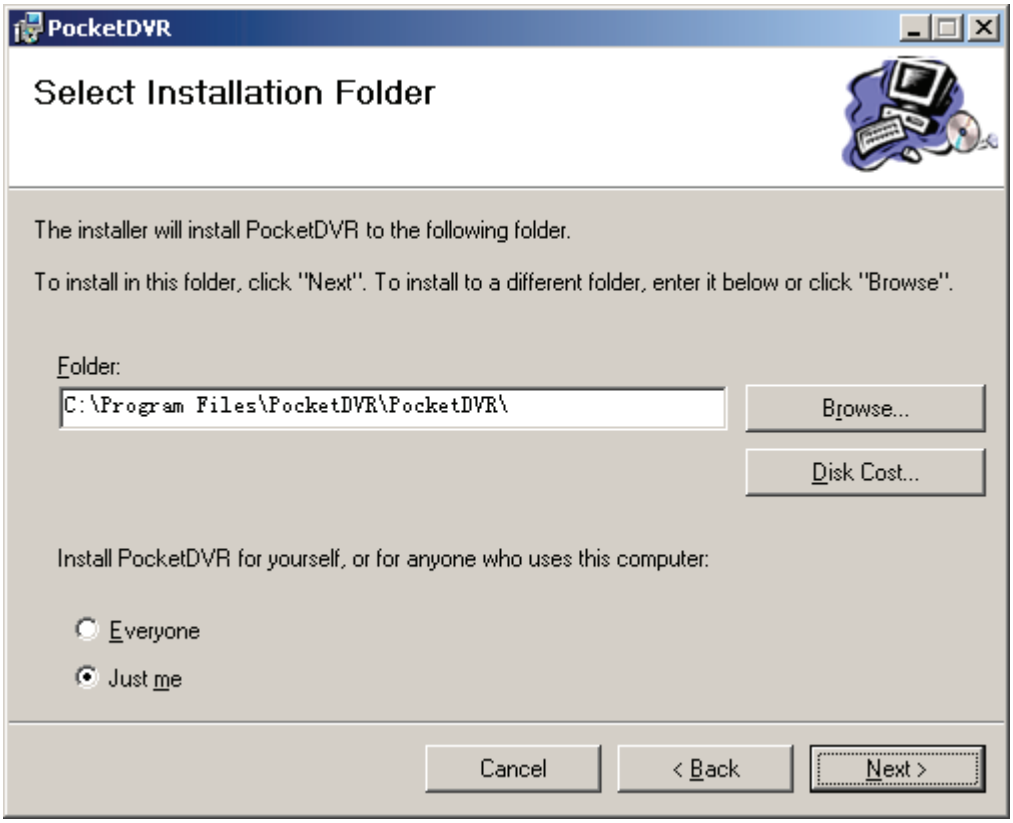
6.1 Micro Pocket DVR Desktop Installation

Install Micro Pocket DVR Desktop before you use the Micro Pocket DVR I for the first time. Run **setup.exe** to install Micro Pocket DVR Desktop.

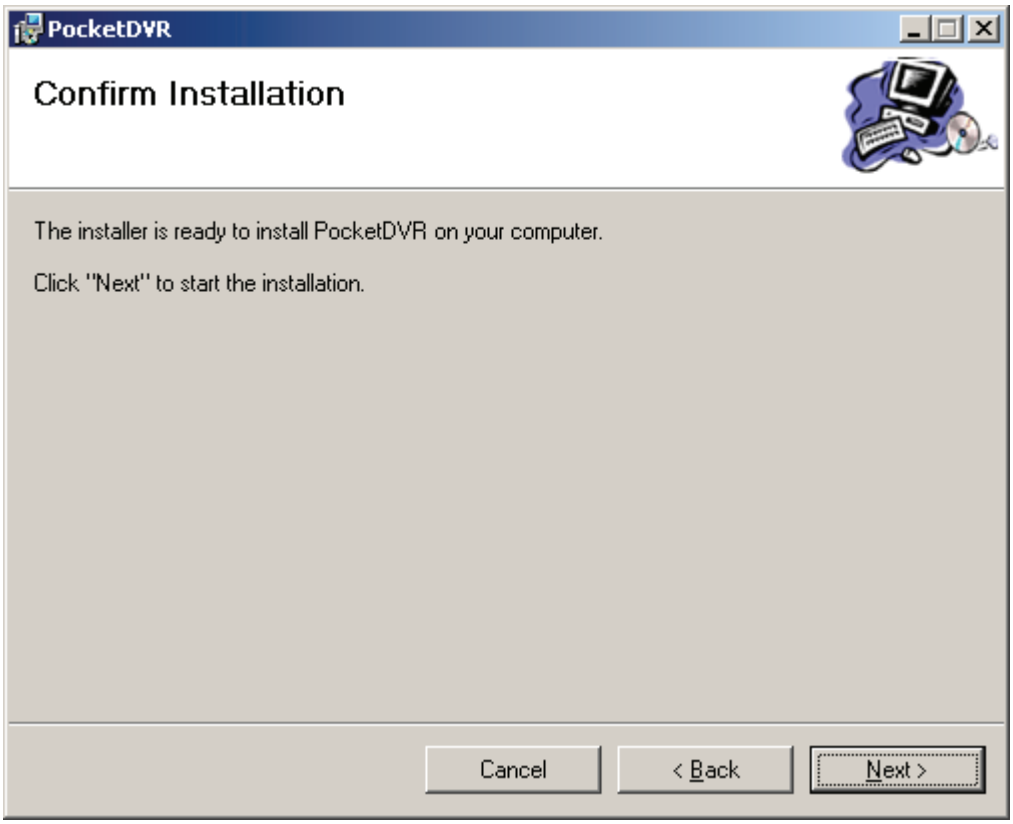

PocketDVR
Welcome to the PocketDVR Setup Wizard
The installer will guide you through the steps required to install PocketDVR on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

Click **Next >** button to continue installation setup.

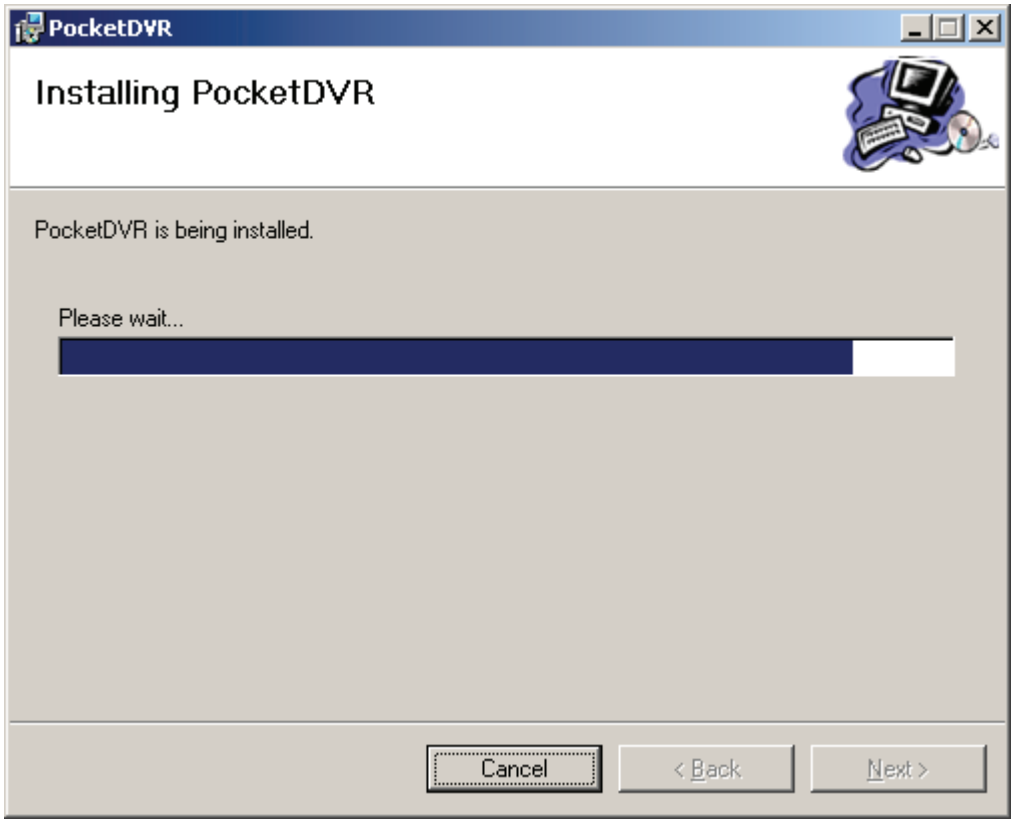
During the installation process, you can select the target folder or use the default folder when software prompts you.


PocketDVR
Select Installation Folder
The installer will install PocketDVR to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\PocketDVR\PocketDVR\
Browse...
Disk Cost...
Install PocketDVR for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

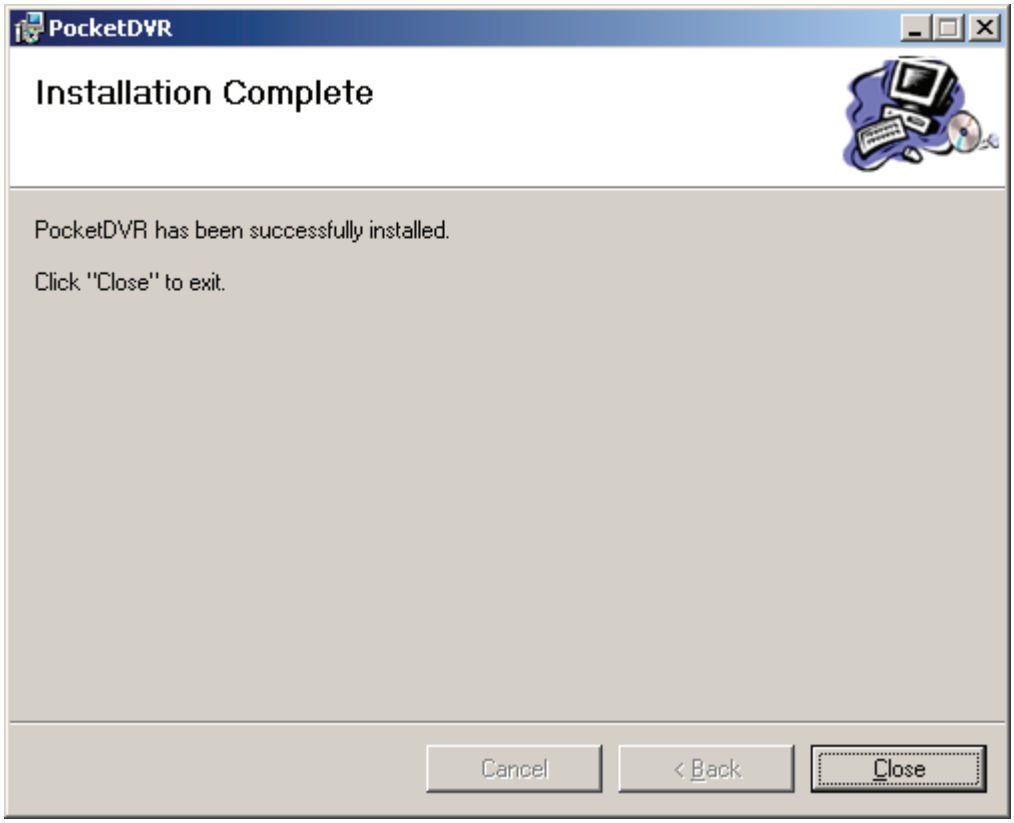
After you select the target folder, Click **Next >** button to confirm it.


PocketDVR
Confirm Installation
The installer is ready to install PocketDVR on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

Click **Next >** button to start Micro Pocket DVR software install.



Click **Close** button to finish it when installer prompt you the installation is successfully.



After you install the Micro Pocket DVR Desktop, the software shortcut **Micro Pocket DVR Desktop** will be generated on the desktop and Micro Pocket DVR I program folder.

DirectX 9.0c is required to install and run Micro Pocket DVR Desktop.

7. Configure Micro Pocket DVR I

The Micro Pocket DVR is initialized as **DEVICE.INI** under the root directory of the CF card. It must be in the root directory of CF card. The Micro Pocket DVR will use the last time configuration if DEVICE.INI not found during startup.

Micro Pocket DVR Desktop can configure the video format, average bit rate, audio in, TV system, time stamp, Beacon, convert the recording video etc.

7.1 Start-Up Micro Pocket DVR Desktop

Micro Pocket DVR Desktop will detect Network connection between Micro Pocket DVR & PC in first, if Desktop can't detect valid network connection, then it will detect CF card that you want to used in Micro Pocket DVR I, please connect CF card to PC via card reader before you start Micro Pocket DVR Desktop if you don't want to connect Micro Pocket DVR I to PC via LAN.

The default sequence of Micro Pocket DVR Desktop is detecting valid network connection between Micro Pocket DVR & PC in first, then detect CF card if it can't find any valid net work connection. Certainly, you can change the default detection method in Micro Pocket DVR Desktop software.

7.1.1 Startup Desktop software via Network Connection

Connect Network Sync cable that in package between Micro Pocket DVR & PC or switch/HUB in first, then double click to start-up Micro Pocket DVR Desktop.

Micro Pocket DVR Desktop will search valid network connection.

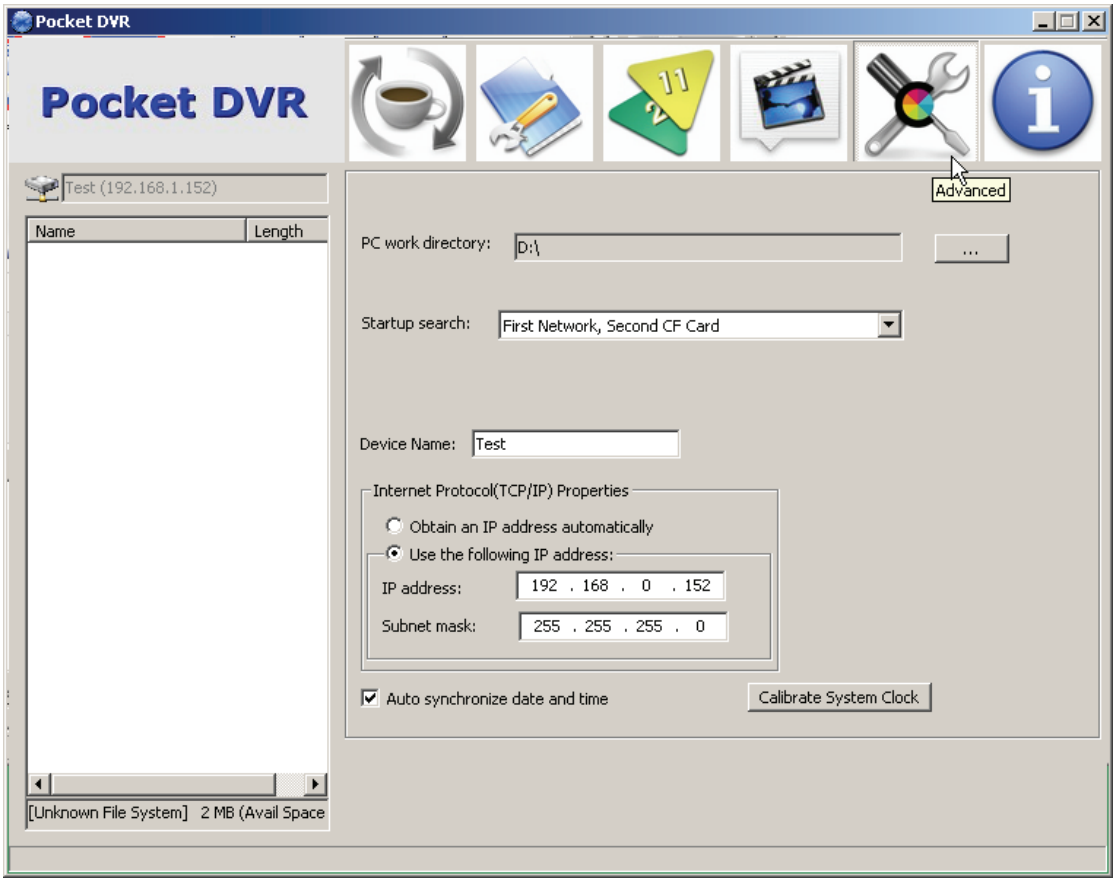
After Micro Pocket DVR Desktop detects valid network connection, it wills start-up successfully.

The default IP address of Micro Pocket DVR is 192.168.0.152, please ensure your PC on same IP segment for first connection. If your PC & Micro Pocket DVR with different IP address segment, Desktop software will prompt you.

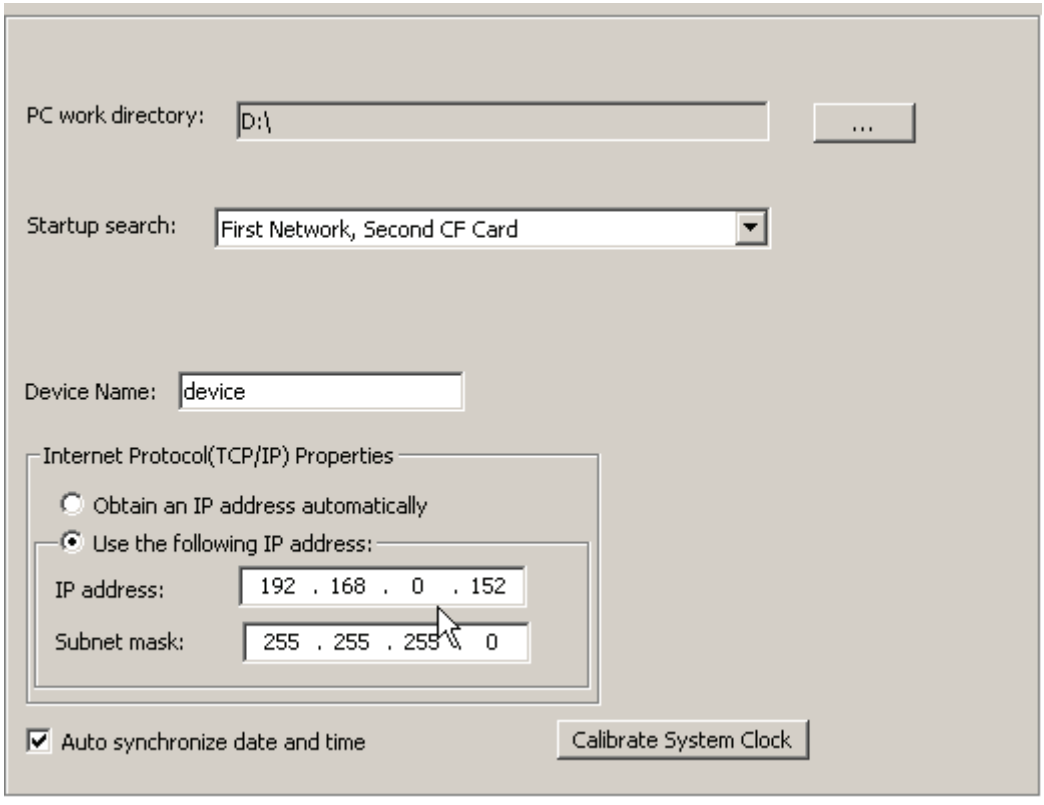
You can change IP address of your PC to same IP segment with Micro Pocket DVR, such as 192.168.0.100, and then restart Desktop software again.

After you startup Desktop software successfully, you can change IP address of Micro Pocket DVR to same IP segment with your local LAN.

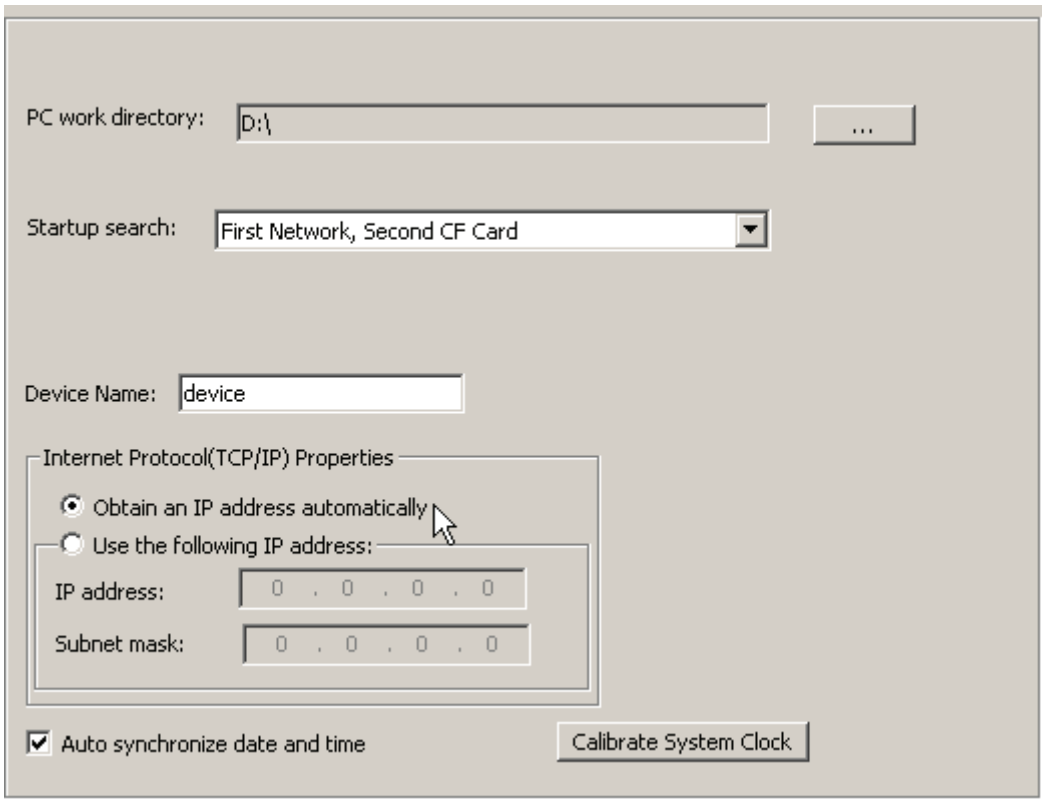
Click **Advanced Configuration** button to configure network environment of Micro Pocket DVR connection.



You can change IP address of Micro Pocket DVR manually.



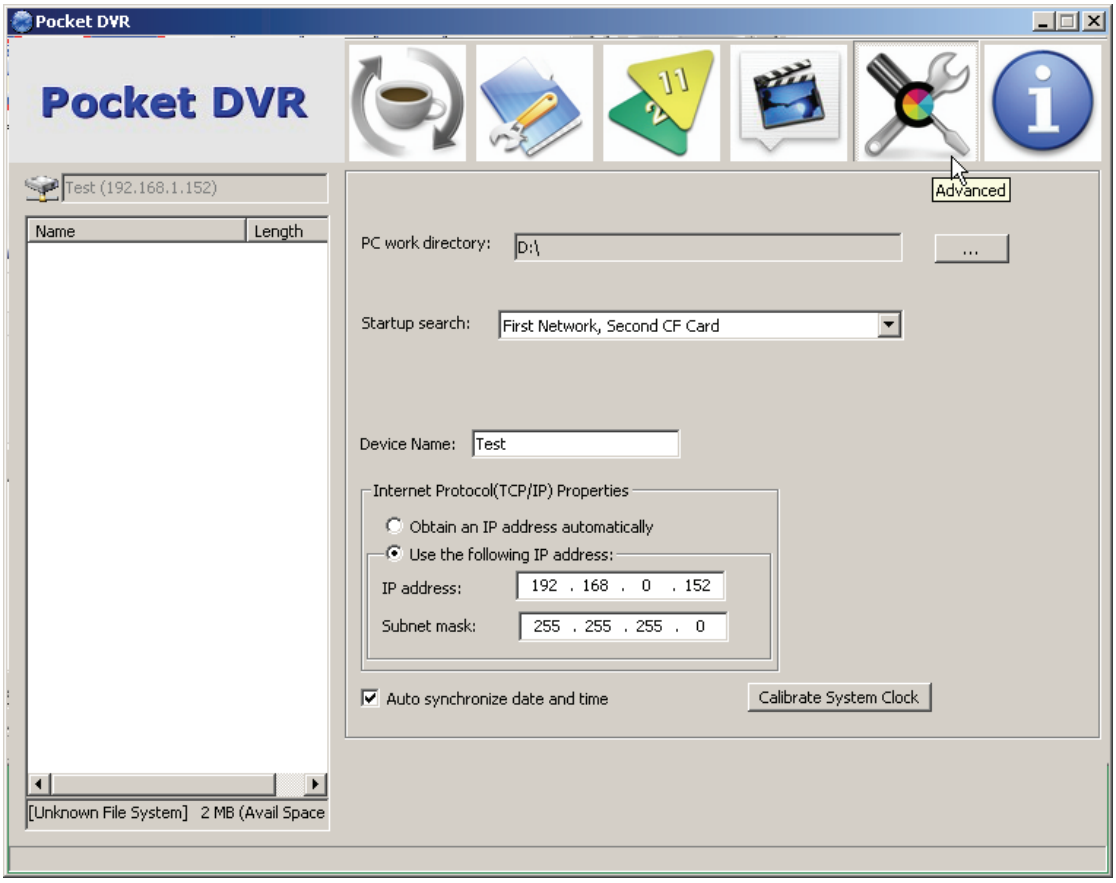
Or you can let Micro Pocket DVR obtain IP address from DHCP server on your local LAN if you connect Micro Pocket DVR to router or switch. But please notice, the router or switch that be connected Micro Pocket DVR must support MDI/MDI-X connection.



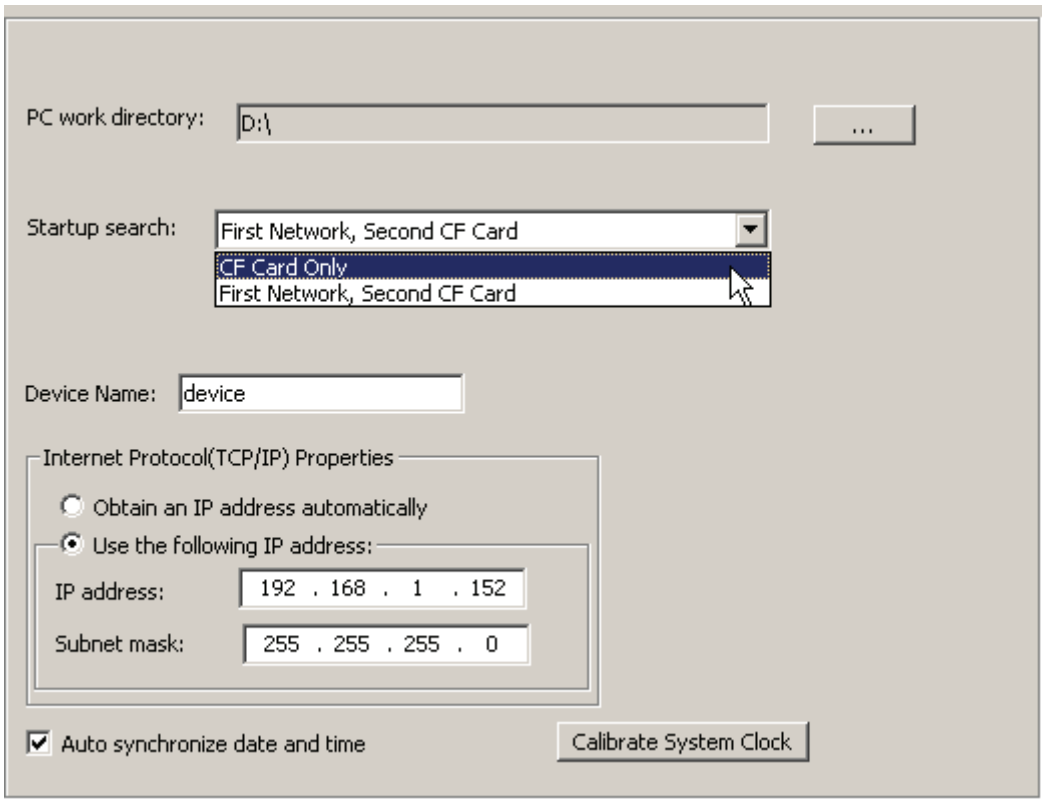
7.1.2 Startup Desktop software via CF card Connection

Change **Startup Search** option from default configuration to **CF Card only**, then you can startup Micro Pocket DVR Desktop via CF card that connect to PC without network connection.

Click **Advanced Configuration** button to configure connection configuration.



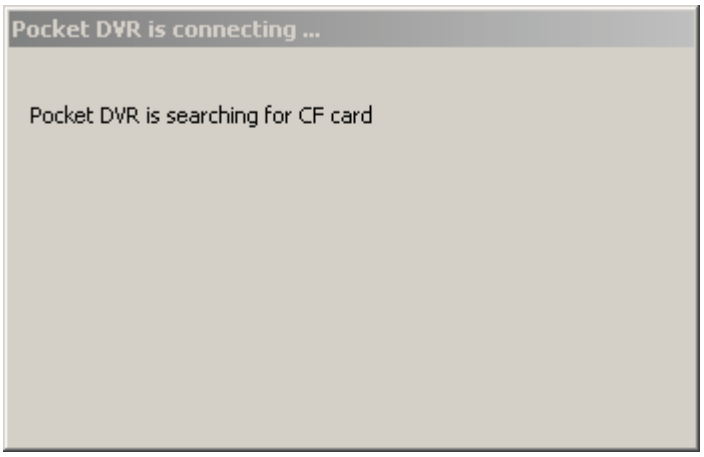
Then set **Startup Search** option to **CF Card Only** item.



After you configure it, you can startup Desktop software only via CF card without network connection for the future.

Connect CF card to PC via card reader in first, then double click to start-up Micro Pocket DVR Desktop.

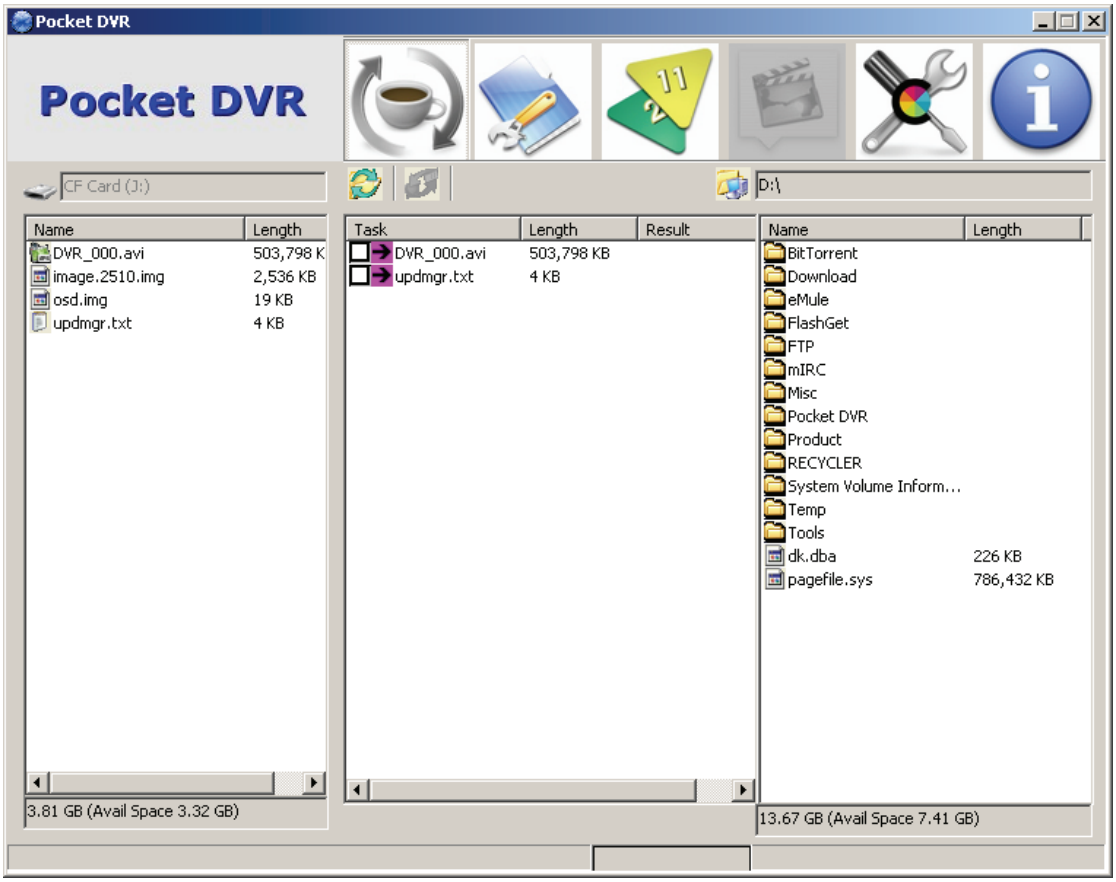
Micro Pocket DVR Desktop will search CF card on PC.



If CF card can't be connected to PC correctly or no CF card be connected to PC, Micro Pocket DVR Desktop will display error message to prompt you connect CF card to PC correctly.

Pocket DVR
Can't find Network connection or CF card, Please ensure device connected to PC or CF card be inserted to PC correctly!
确定

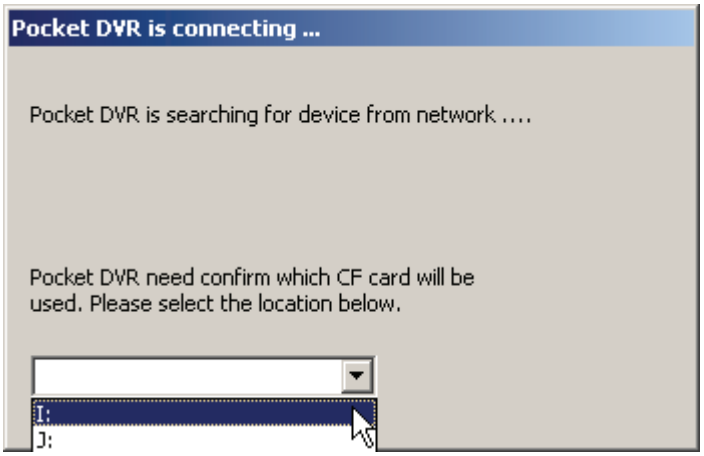
If CF card that you connect to PC had been used in Micro Pocket DVR or be initialized by Micro Pocket DVR Desktop, Micro Pocket DVR Desktop will detect the DEVICE.INI file on the root directly of CF card, and Micro Pocket DVR Desktop will start-up automatically.



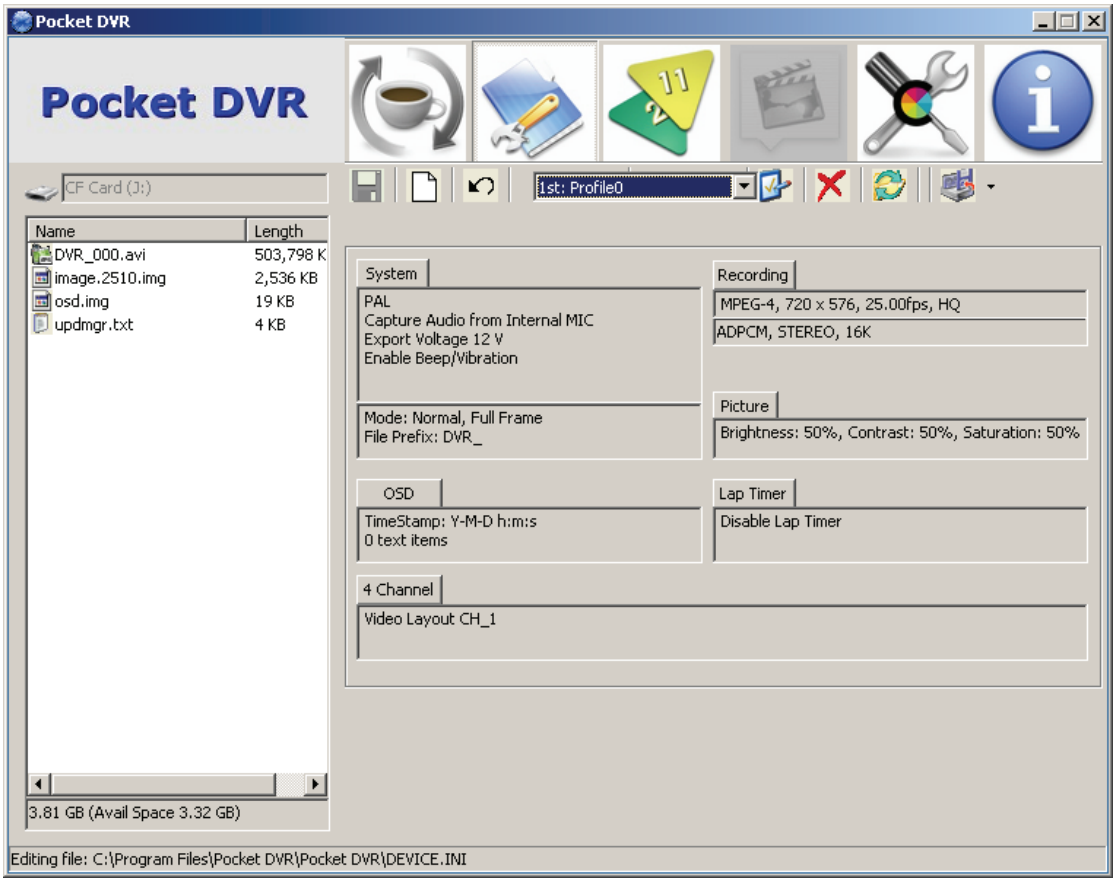
If Micro Pocket DVR Desktop detect a new CF card, system will prompt you select a correctly disk that point to CF card.

Pocket DVR is connecting ...
Pocket DVR is searching for device from network ....
Pocket DVR need confirm which CF card will be used. Please select the location below.

After you select correctly disk, Micro Pocket DVR Desktop will initialize CF card and create DEVICE.INI configuration file on root of CF card automatically.

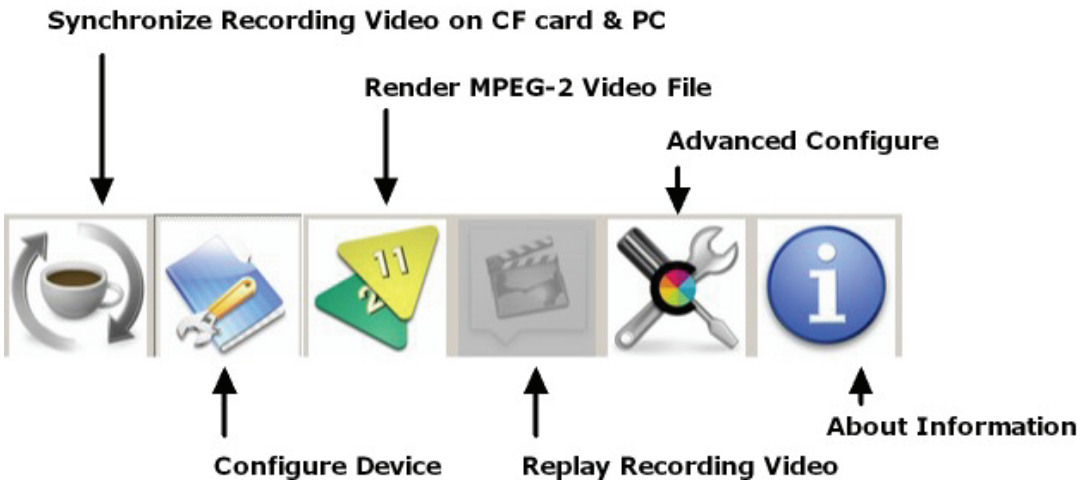

Pocket DVR is connecting ...
Pocket DVR is searching for device from network ....
Pocket DVR need confirm which CF card will be used. Please select the location below.
I:
J:

Once Micro Pocket DVR Desktop finished initialization, it wills start-up automatically.



7.2 Micro Pocket DVR Desktop Description

7.2.1 Micro Pocket DVR Desktop Title Bar



Micro Pocket DVR Desktop include six part, you can using Micro Pocket DVR Desktop to configure the video format, average bit rate, audio in, TV system, time stamp, Beacon, convert the recording video etc.

Sync :
Synchronize recording video file on CF card & PC.

Device Configuration :
Configure Micro Pocket DVR device.

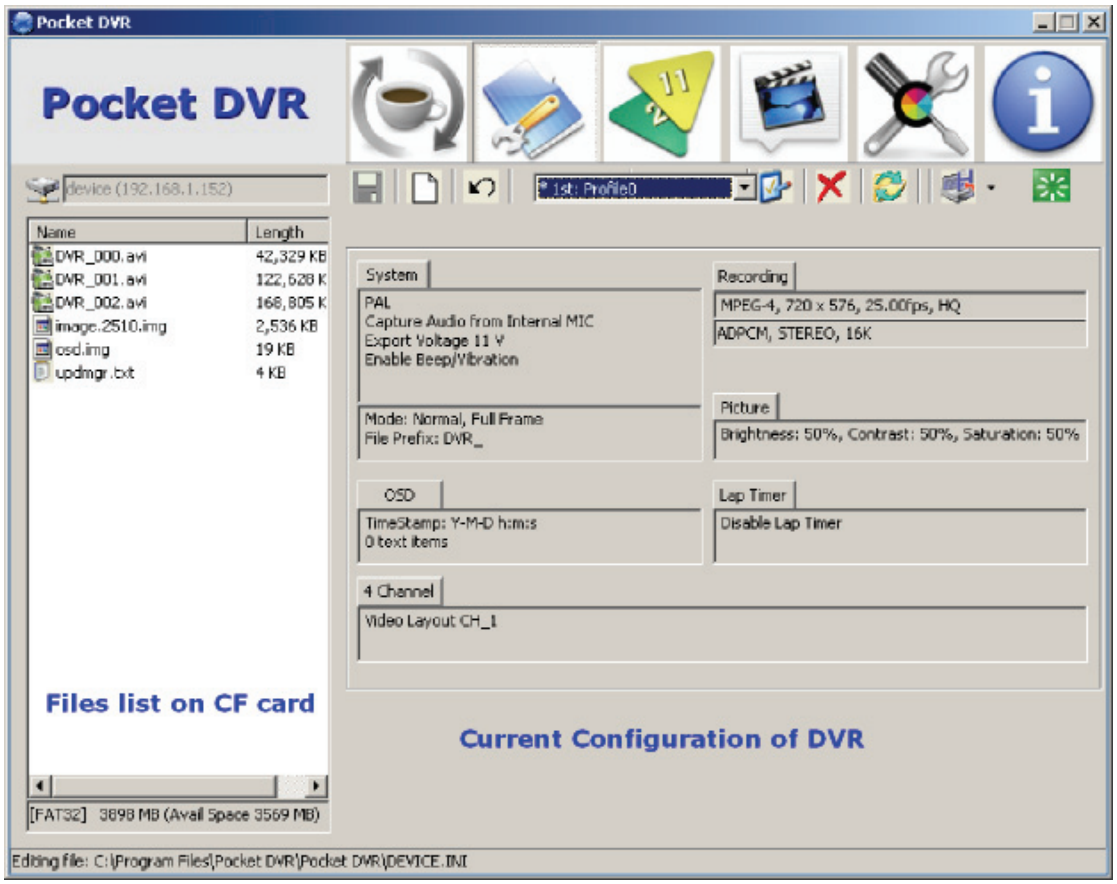
Conversion :
Render MPEG-2 data to standard MPEG-2 video.

Play :
Replay recording video on CF card or PC.

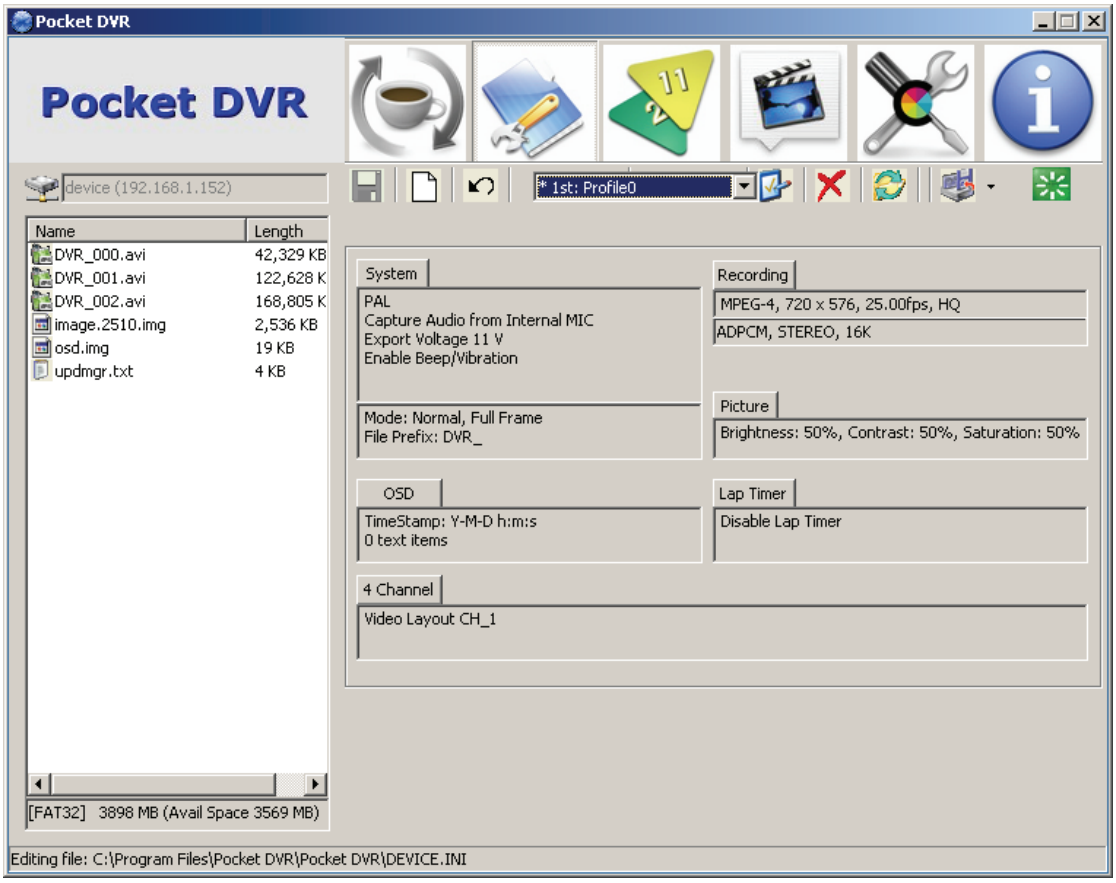
Advanced :
Advanced system configuration.

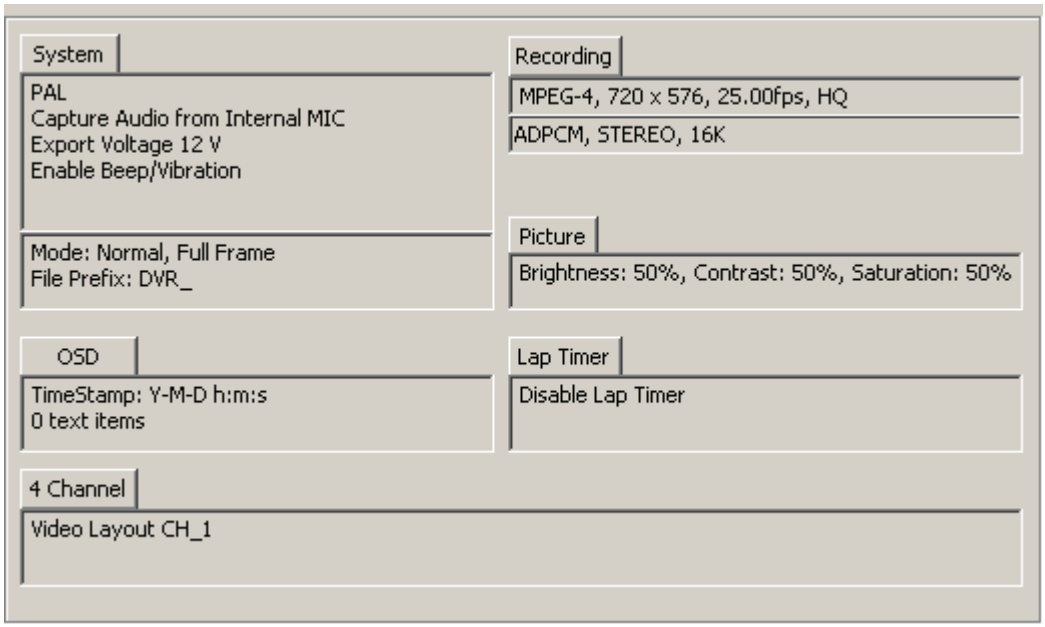
About :
Details information of Micro Pocket DVR Desktop.

7.2.2 Micro Pocket DVR Desktop Interface



Click **Device Configure** button on the title bar to configure the Micro Pocket DVR.





7.2.3 Save, Cancel & Reset Setting

In all pop configuration menus, you can save, cancel or reset setting to default.

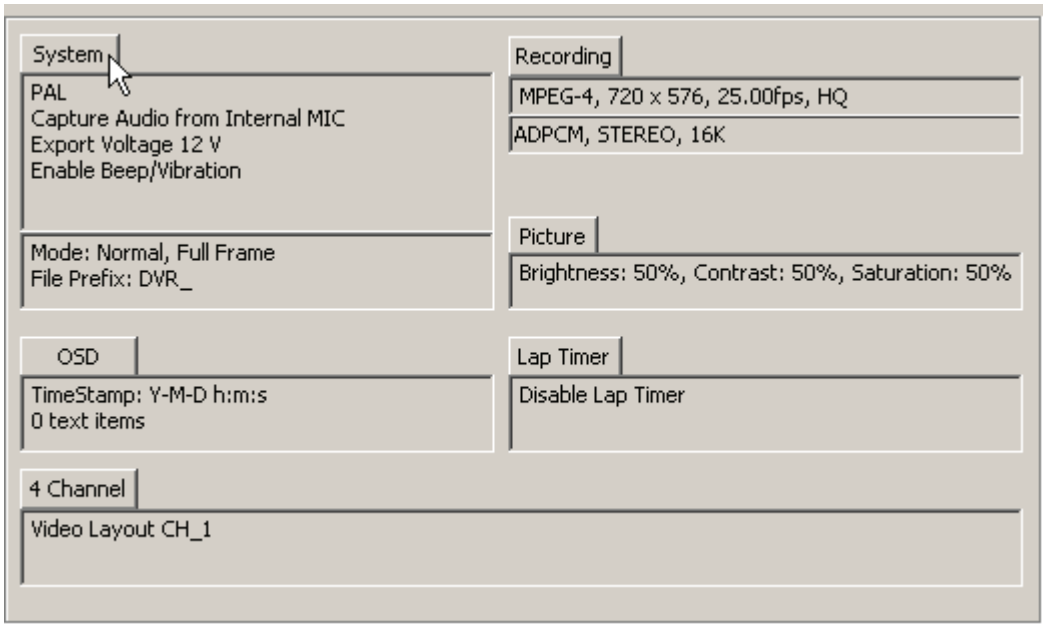
When you finish all setting, you can click **OK** button to save configuration & exit current configuration menu.

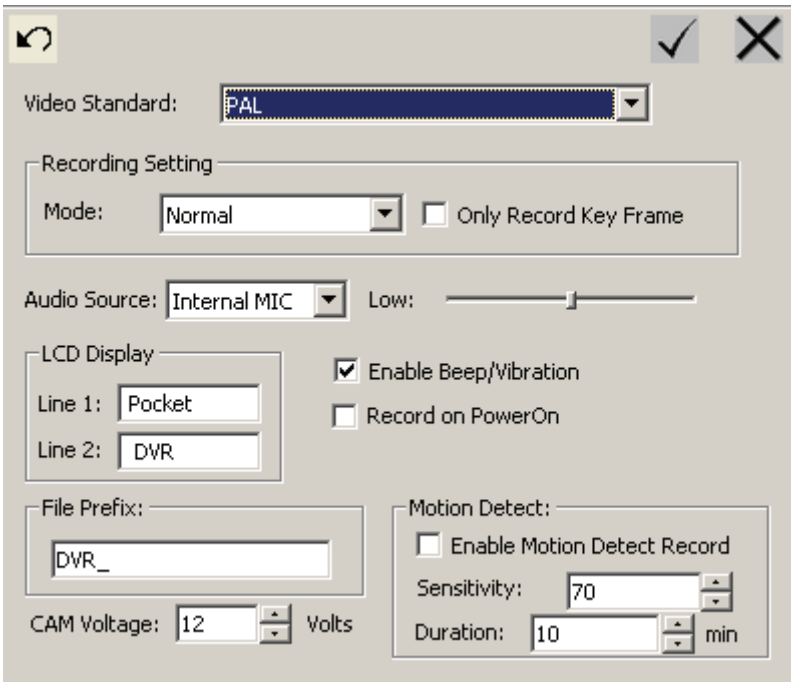
If you want to cancel current modification, please click **Cancel** button to cancel & exit current configuration menu.

If the configuration had been jumbled, you can click **Reset** button to restore configuration to default setting.

7.3 Device Configuration

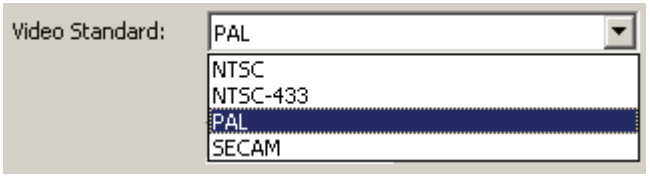
Click **System** tab to configure Micro Pocket DVR.





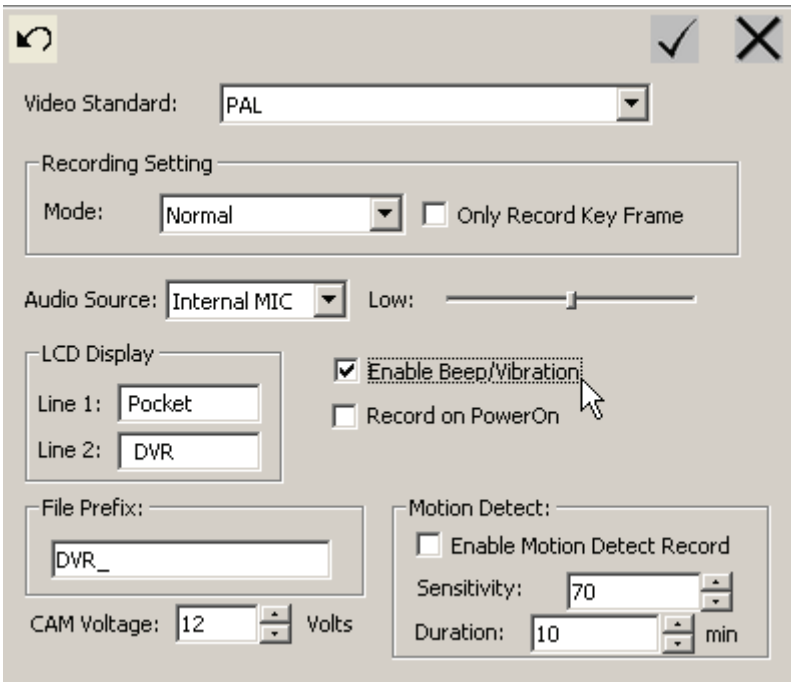
7.3.1 Video System

Please select correct video standard which corresponding to the video source of camera. Default video standard is now PAL. It has to be changed for other video standard.

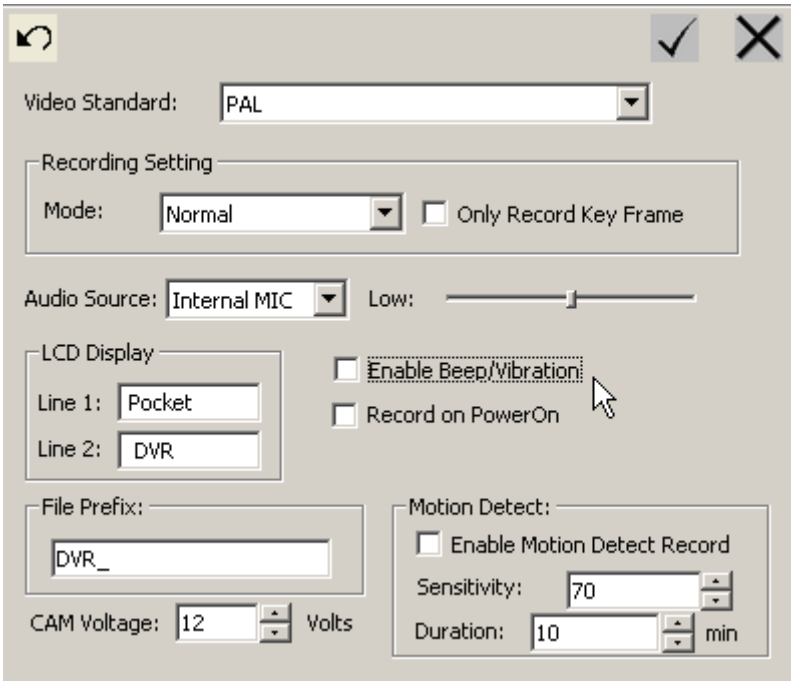


7.3.2 Beep/Vibration

Micro Pocket DVR will beep or vibrate to warn you when it starts or stops recording, in some special applications or occasion/environment, you may want to turn this function off, and you can disable beep/vibration function.



The default configuration is **Enable Beep/Vibration** function; you can disable it in Micro Pocket DVR Desktop.

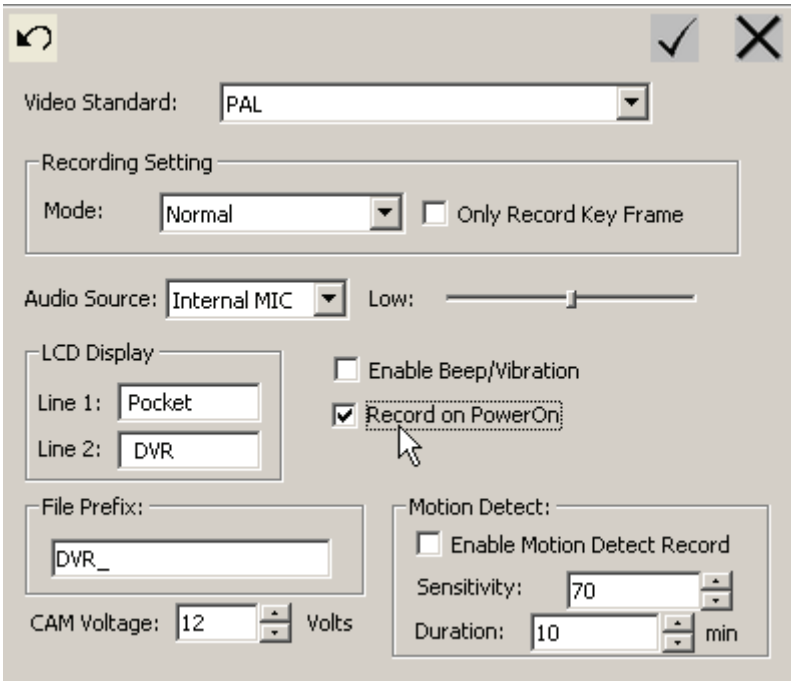


Switch off **Enable Beep/Vibration** options in Micro Pocket DVR Desktop to disable it, now you can operate Micro Pocket DVR in silent mode.

7.3.3 Record on Power On

In some applications, you may need the Micro Pocket DVR to record automatically once the Micro Pocket DVR is powered on.

You can switch on the **Record on PowerOn** option in the Micro Pocket DVR Desktop.



The default status of record is manual record via IR remote control, LANC remote control or push button.

7.3.4 Recording Setting: Normal/Cycle Record, Key Frame & Motion Detection

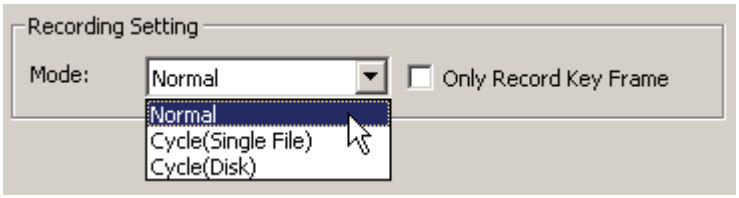
You can configure the Micro Pocket DVR in normal record or cycle record mode.

7.3.4.1. Normal Record Mode

In normal record mode, Micro Pocket DVR will record video & save recording video in multi-single video file, the maximum size of single recording video file is 2GB depend on limit of system.

The default of record mode is **Normal Mode**.

You can select Normal Record Mode option to enable normal record mode if current configuration is cycle item.



If you want to use Micro Pocket DVR in a surveillance application, you can set the **Record Mode** to Cycle Record mode.

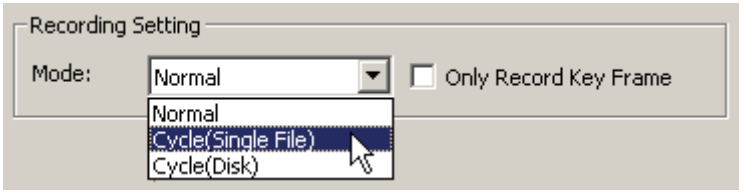
7.3.4.2. Single File Cycle Record Mode

The Micro Pocket DVR has two cycle record modes, Single File Cycle Record & Full Disk Cycle Record mode.

In Single File Cycle Record mode, the Micro Pocket DVR will save recordings in single file only, the maximum size of single recording video file is 2GB, when video reaches the 2GB limit, the system will save the new recordings from the begin of recording video file.

If your CF card is smaller than 2GB, the Micro Pocket DVR will save recording video in single file only, when CF card is full, system will save the new recorded video from the beginning of the recorded video file.

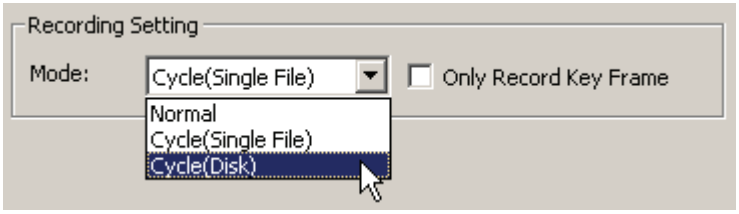
You can select Cycle (Single File) item in **Record Mode** option to enable Single File Cycle Record mode.



7.3.4.3. Full Disk Cycle Record Mode

In Full Disk Cycle Record mode, the Micro Pocket DVR will record continually, when the CF card is full, the Micro Pocket DVR will record the video overwriting the oldest recorded file.

You can select Cycle (Disk) item in **Record Mode** option to enable Full Disk Cycle Record mode.



If you set the Micro Pocket DVR in cycle record mode, all old recorded video file on the CF card will be deleted on system startup.

7.3.4.4. Only Record Key Frame

If you want to record video in surveillance application, you can record key frame only to decrease the size of recording video & increase recording time for a same CF card.

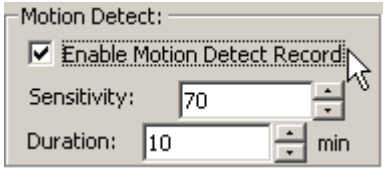
In this option, Micro Pocket DVR will record one frame per 15fps. In PAL video standard, approx 3 frame per 2 second be saved; in NTSC video standard, approx 2 frame per second be saved.

If you select this option, system will save video only and that the sound will be forsaken.

NOTE: The option is only for MPEG-4.

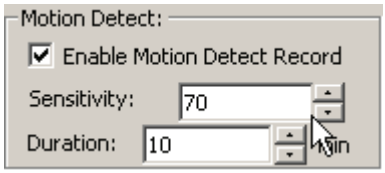
7.3.4.5. Motion Detection

When you use Micro Pocket DVR on surveillance application, such as security surveillance, scout, wildlife protect & observe etc, you need record all useful video over a long time range on a CF card, you must forsake useless resting video to save storage space on CF card. You can enable Motion Detection function to get it.



The default configuration of Motion detection is disabling, you need enable it if you want to use this function.

To avoid unconcerned locomotors object to active Motion Detection, you can set Sensitivity of Motion Detection, the value means the size proportion of locomotors object than fully screen area.

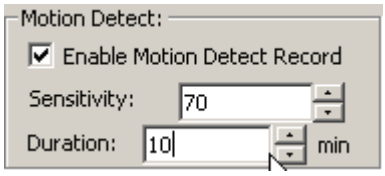


You can estimate the size proportion of object that you want to catch, at once Micro Pocket DVR detect a locomotors object that match sensitivity value that you setting, it will begin to record video automatically until duration time that you setting is finished.

The default value of Sensitivity is 70% of full recording video screen area.

Micro Pocket DVR will recording continuously until duration time is finished when Motion Detection recording be actives. You can change Duration time depend on your requirement to record all useful video or save more storage space on CF card.

The default value of duration time is 10 minutes.



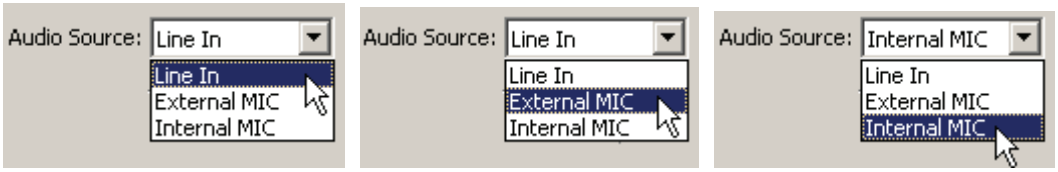
Micro Pocket DVR will start recording at once Motion Detection be actives, it will stop recording when duration time is finished, if Micro Pocket DVR detect other suited locomotors object in duration time, the duration time will be postponed based on the last suited object.

Actual duration time is always timed based on the last suited locomotors object that be detected by Micro Pocket DVR.

Motion Detection function is only for MPEG-4 format.

7.3.5 Audio Source

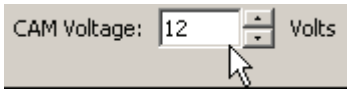
Please select the correct audio in setting which is based on your actual audio input. Default audio source is **Line In**, you need to select **External MIC** if you use an external microphone, or you can select **Internal MIC** item if you use the internal microphone in Micro Pocket DVR.



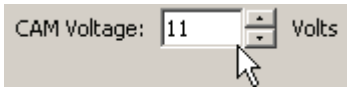
The **External MIC** & **Internal MIC** option will increase gain of volume.

7.3.6 Output Voltage

Micro Pocket DVR can power external device via power output adapter on IRIS-RCA jump cable, you can power external bullet camera or external LCD monitor, you can adjust output voltage from 6V to 12V.

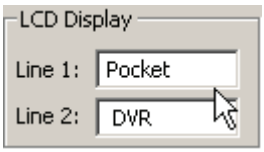


If you want to power external bullet cameras more than one, please set the output voltage lower than 11V, and you need connect AC power adapter for Micro Pocket DVR.



7.3.7 LCD Display

You can customize the LCD message.



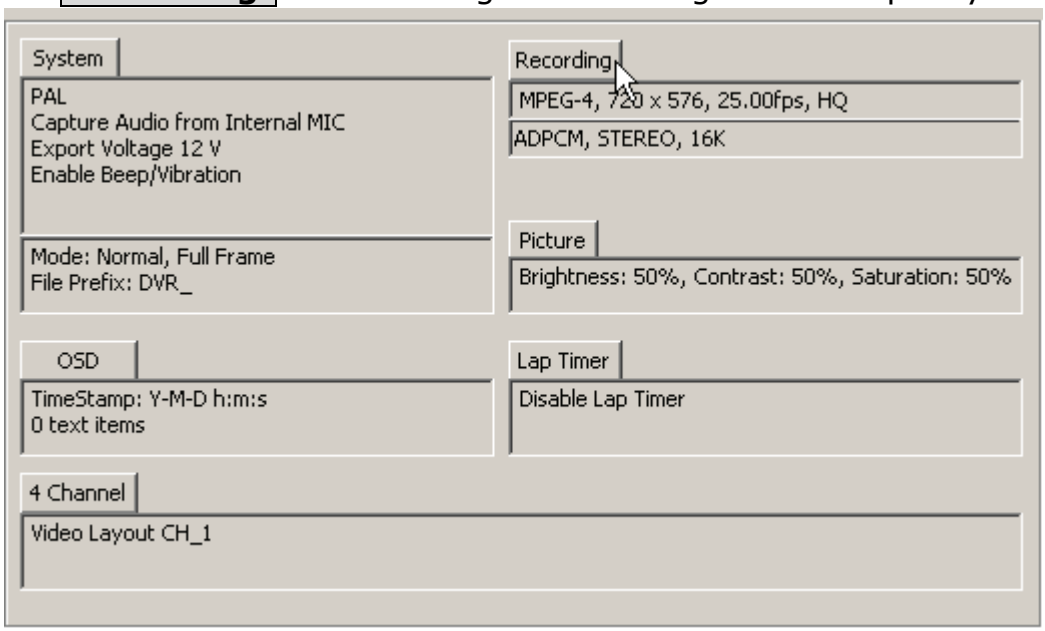
The maximum character of characters of every line is 8; you can use printable characters only & exclude the character "~".

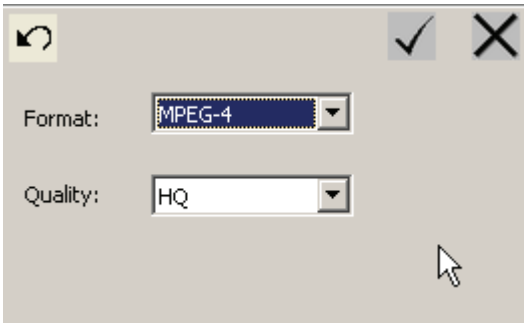
7.3.8 Video File Name

Record file name starts with DVR_ by default. The file name will be **DVR_xxx.avi**. XXX is incremental from 000 to 999. The prefix DVR_ can be modified in Micro Pocket DVR Desktop.

7.4 Recording Format & Quality

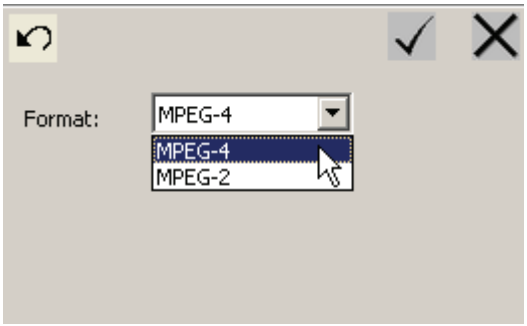
Click **Recording** tab to configure recording format & quality.





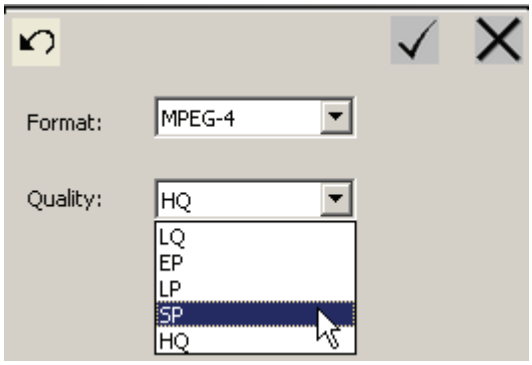
7.4.1 Video Format

Select **MPEG-2** or **MPEG-4** format for your recording video.



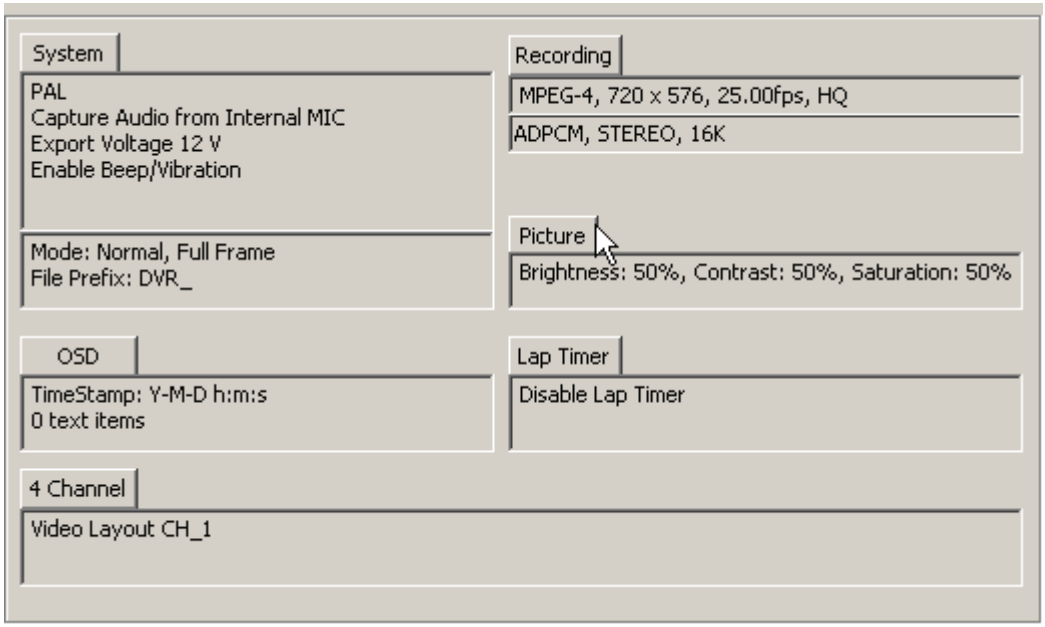
7.4.2 Video Quality

Select proper video quality based on the scene and required. Please refer to Video Quality section.

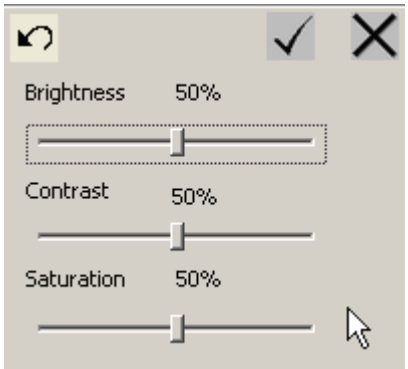


7.5 Picture Adjust

Click **Picture** tab to adjust picture of recording quality.

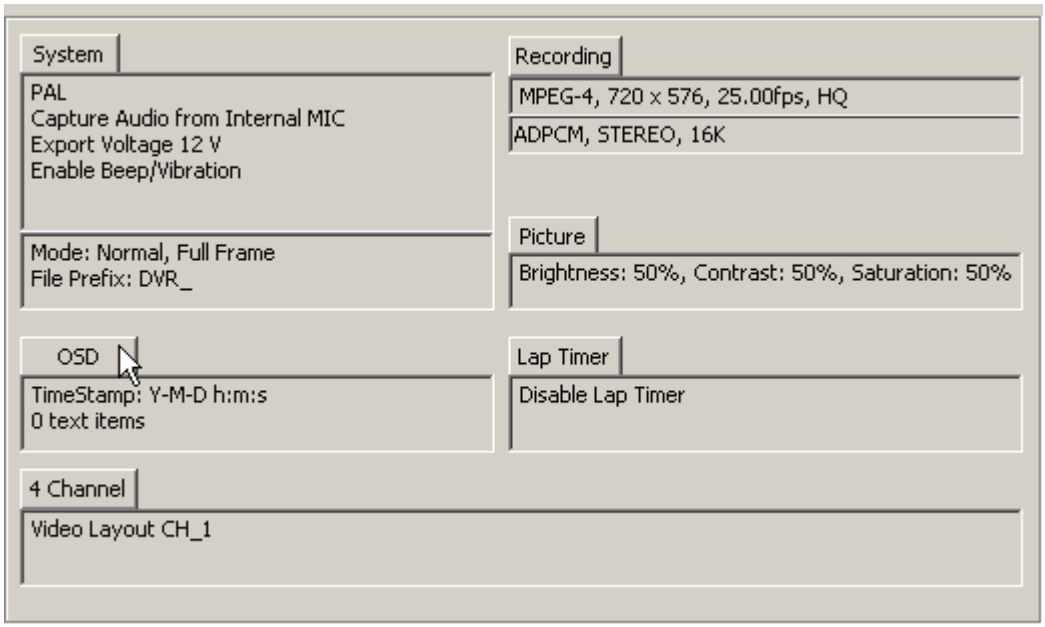


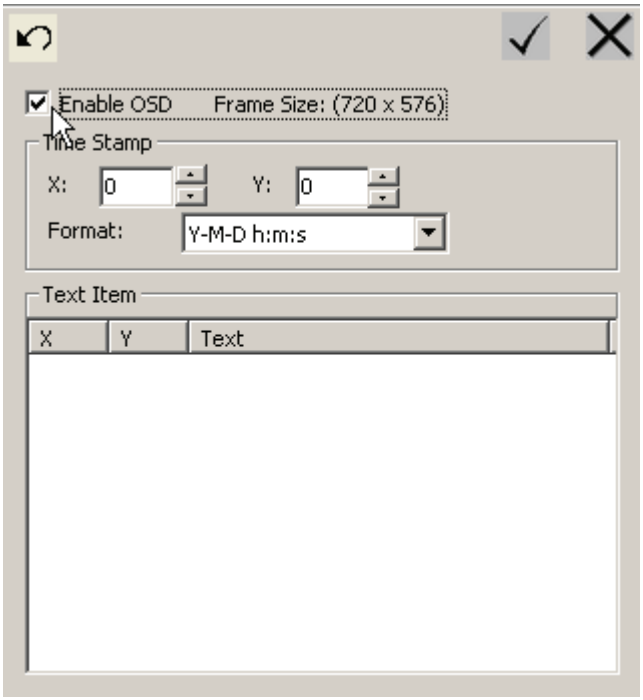
You can adjust the brightness, contrast & saturation of the picture to get the best quality. The default value is 50%.



7.6 OSD Configuration

Click **OSD** tab to configure Time Stamp & OSD information.



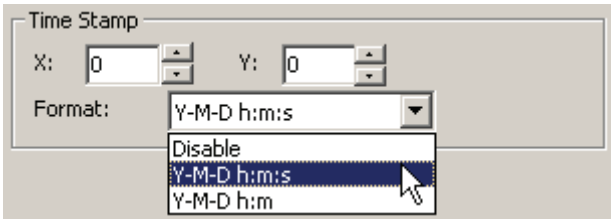


You can display Time Stamp & customized OSD information on recording video screen.

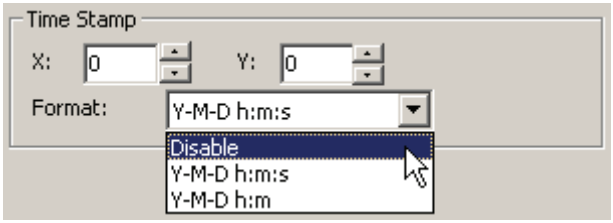
At once we enable OSD, the Time Stamp & special OSD information that you input will display on screen & recording video.

7.6.1 Time Stamp

You can enable time stamp in two formats to stamp your recorded video with real date & time.



Certainly, you can disable Time Stamp features if you want to display customized text OSD information in your recordings only & without date & time stamp.



You can display date & time stamp on anywhere of screen, set coordinates X & Y that you want to posit data & time stamp.

The unit of X & Y coordinate is pixel; the value bound is 720x576 of PAL & 720x480 of NTSC video standard. The value of X coordinates is from 0 to 720, Y coordinates is from 0 to 576 (PAL) or 480 (NTSC).

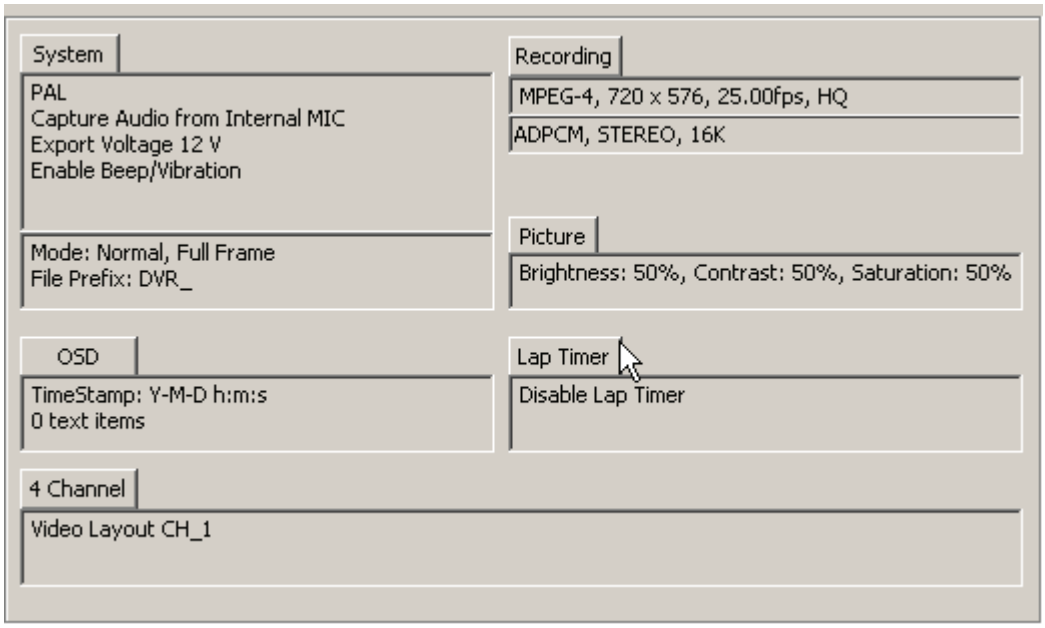
At once you don't active **Enable OSD** option, Time Stamp & all customized text OSD information will disappear on screen & recording video.

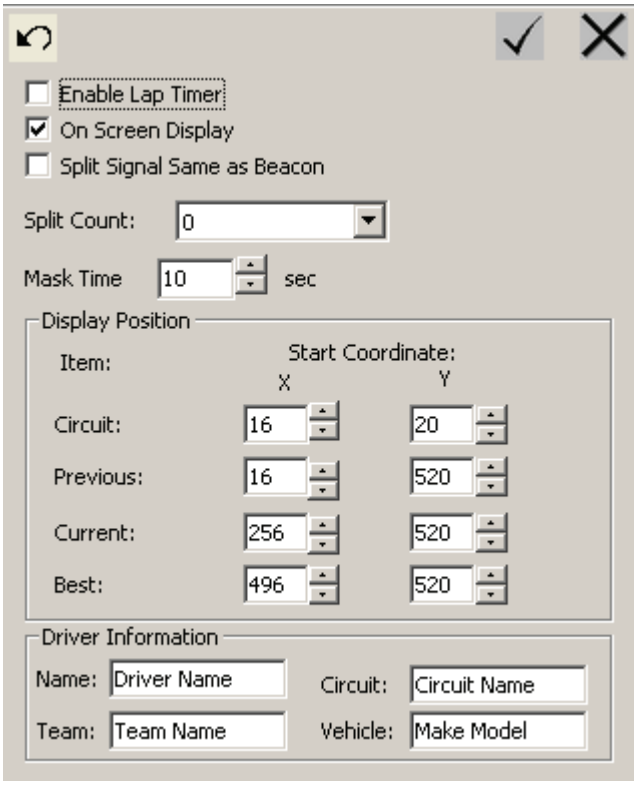
The default, OSD is disabling.

In Micro Pocket DVR, priority of Beacon is higher than Time Stamp; the Time Stamp will be disabling at once when the Beacon is enabling.

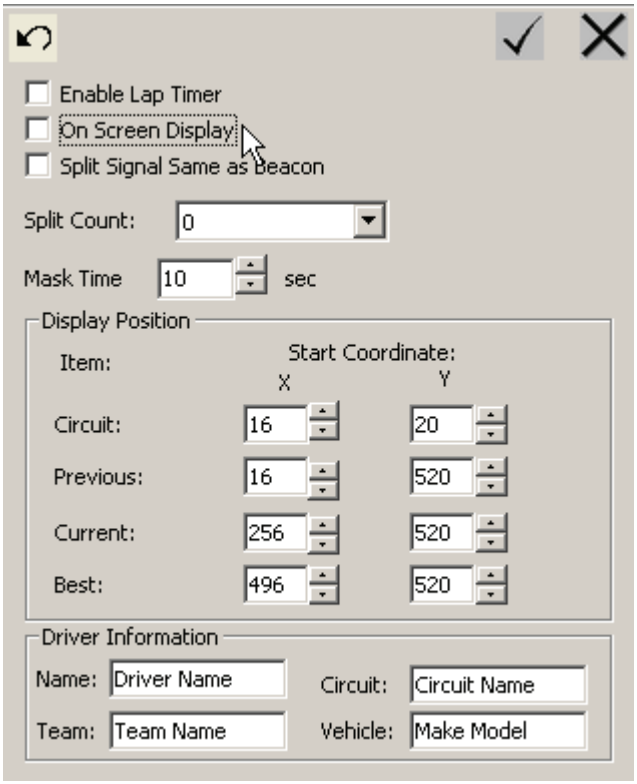
7.7 Configuration of Lap Timer

Click **Lap Timer** tab to configure Lap Timer.



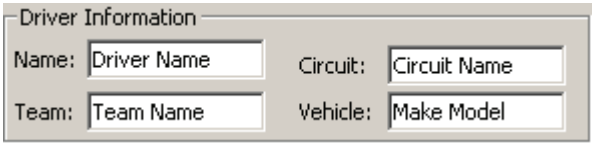


At once you enable Lap Timer function on Micro Pocket DVR /w Lap Timer edition, the Lap Timer data will be recorded on recording video & separate text data file, always, but you can select display it on screen of recording video, please disable **On Screen Display** option.



7.7.1 Set Driver Information

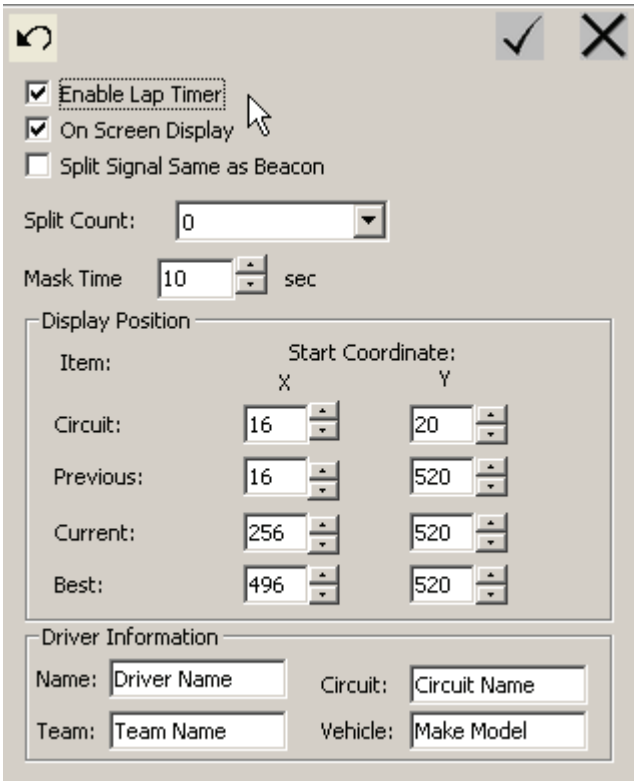
After enable Lap Timer function, you can record driver name, team, and circuit for racing, make & model of vehicle in racing on screen of recording video.



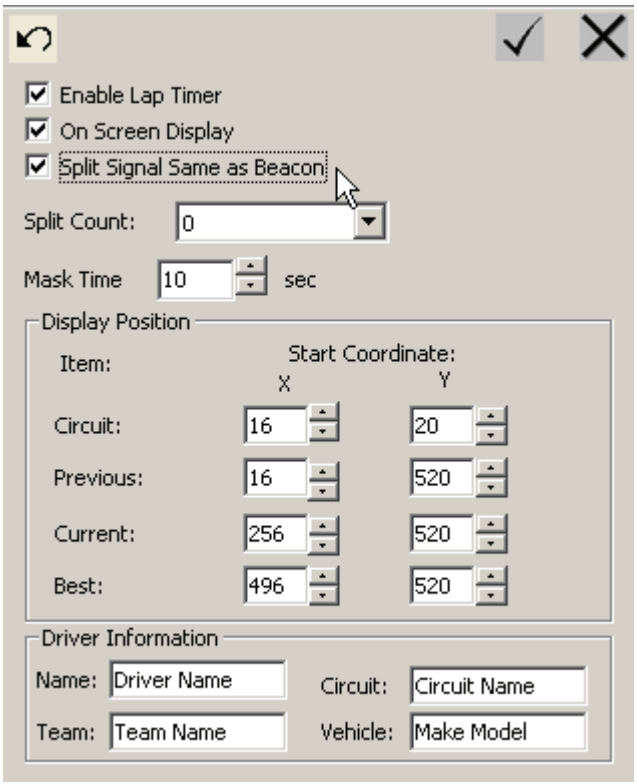
You can modify these informations based on actual details information.

7.7.2 Beacon & Split Beacon

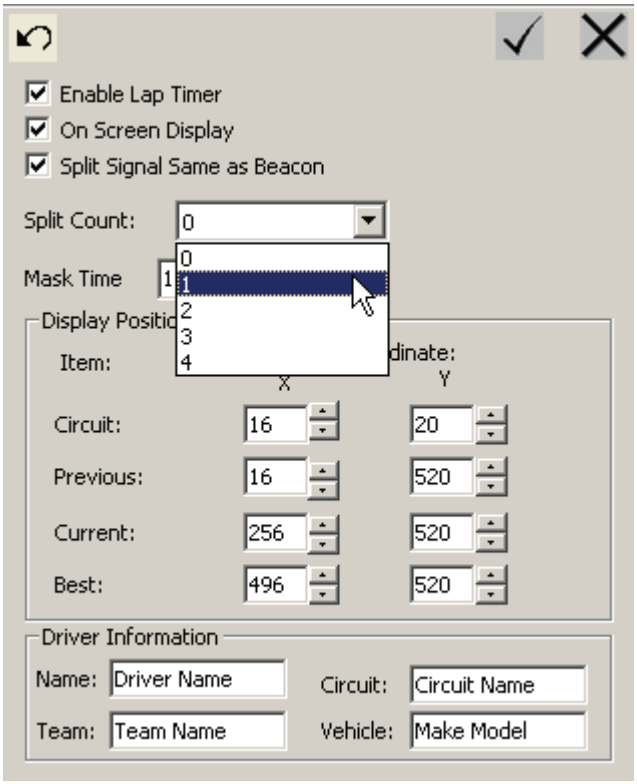
Set **Beacon Enable** to receive Beacon signal. The default is disabling.



If you use Split Beacon on racing, you must switch **Split Signal Same as Beacon** option to enable it.

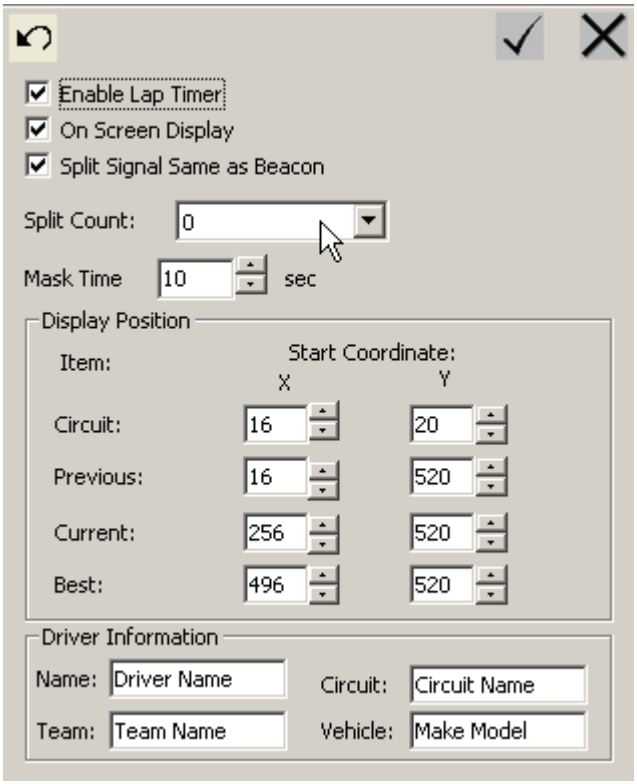


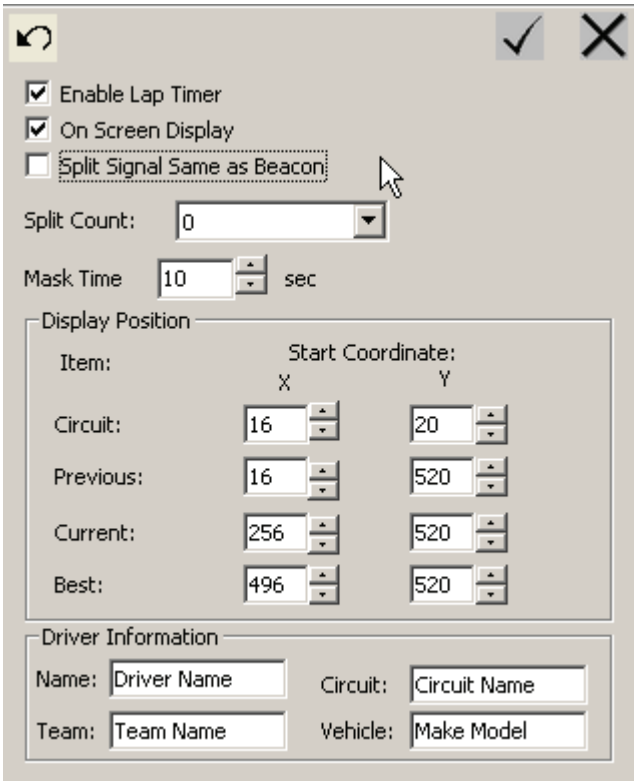
You can select the amount of Split Beacon for every loop; the maximum amount of Split Beacon is four on every loop.



If you don't use Split Beacon emitter on racing, please set the amount of Split Beacon emitter to zero or disable **Split Beacon** option directly.

The default configuration of the amount of Split Beacon is zero.





Micro Pocket DVR can record most 129 loops Lap Timer data on single recording video.

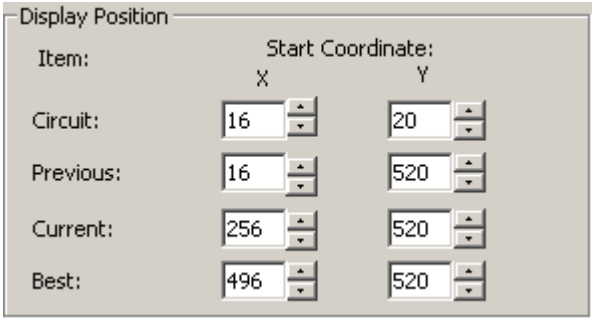
The **Time Stamp** will be disabled when you enable the beacon function.

The Beacon Configuration option is only for the special edition of Micro Pocket DVR with Lap Timer function.

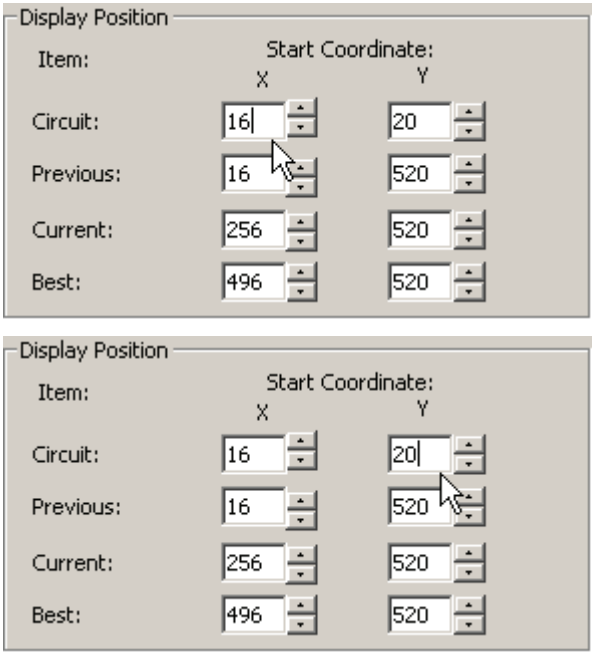
7.7.3 Adjust Position of Lap Timer Data on screen

You can adjust position of Lap Timer data on screen to fit different requirement & playback device.

You can adjust the position of all Lap Timer data item.



Select item of Lap Timer data that you want to adjust, and then set the value of X & Y coordinate on input area.



The unit of X & Y coordinate is pixel; the value bound is 720x576 of PAL & 720x480 of NTSC video standard.

Repeat above process to configure all position that you want to set.

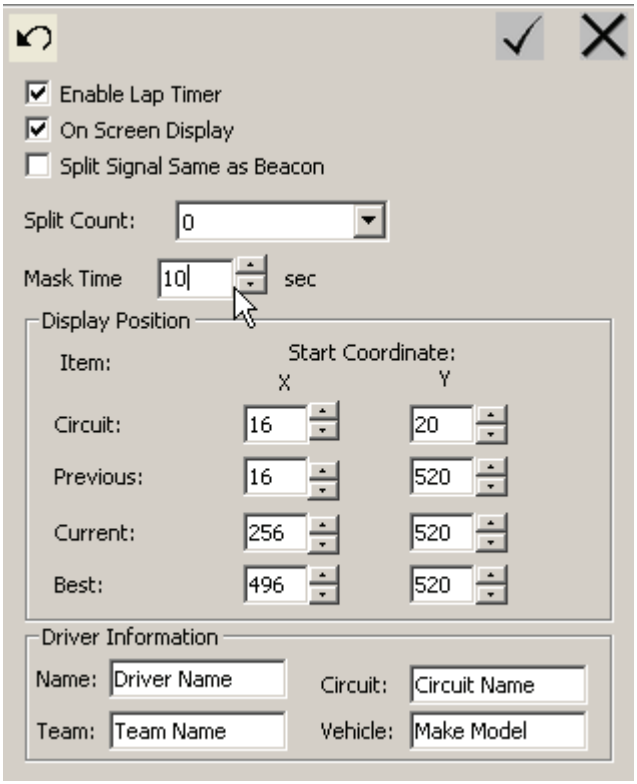
7.7.4 Connection

Simply connect the External Beacon Receiver into the Beacon jack on the Micro Pocket DVR and point the External Beacon Receiver to the Beacon. The Lap Timer will start to work when Beacon signal is detected.

7.7.5 Mask Time

The Mask Timer is the time interval that Micro Pocket DVR doesn't response after the detection of Beacon & Split Beacon signal. The default value is 10 sec. If the time interval of twice signal from Beacon & any Split Beacon emitter is small than Mask Time that you set, the second signal will be ignored by Micro Pocket DVR.

When Split Beacon option be enabled, any Split Beacon emitter & standard Beacon emitter will be as alike signal emitter.



7.7.6 Recording of Lap Time

The time of each lap is record in the DVR_xxx.txt file. The file will looks like:

Hostname
Team WORKGROUP
Sport Motor
Scene Security

READY.. = 04:05.588

Summary:
Total Record Time: 04:05.588

**** Lap Timer is not a standard function of Micro Pocket DVR standard version, it is optional only for special version.***

7.9 Multi Profile Item Configuration

7.9.1 Configure & Save Multi-Profile Item

Micro Pocket DVR support multi-profile for different application, you can save 10 different configurations into single configuration file, and

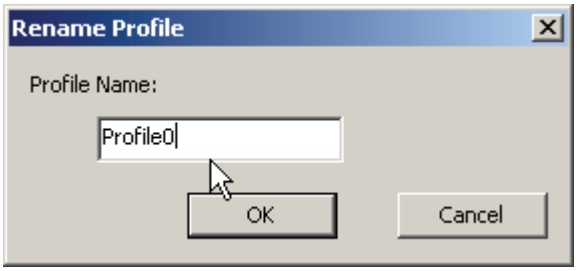
then you can switch to anyone profile between multi-profiles via LCD menu in your application.

You can configure & save multi-profiles item using Micro Pocket DVR Desktop.

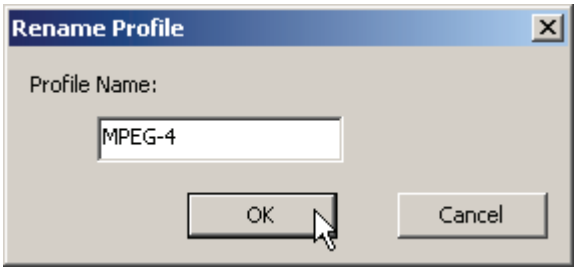
You can label every profile item using special name that be differentiated & remembered easily.

You can create, rename, delete & save profile item using corresponding button on button bar.

Click to name or name the first profile item.



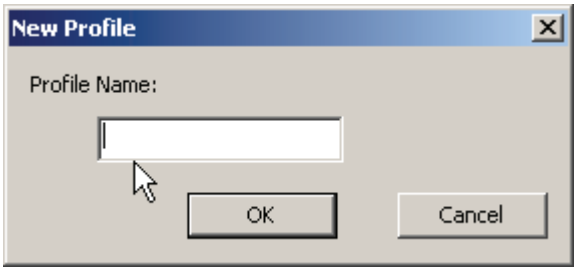
Input new name of the first profile item, then click **OK** button to save it.



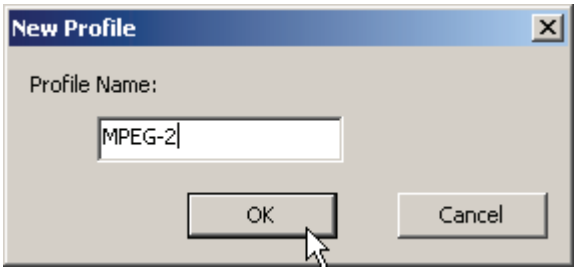
After you name or rename the first profile item, you can configure it that depends on your application or requirement.

To configure Micro Pocket DVR, please consult **Configure Micro Pocket DVR** chapter.

After you finish the first profile, please click to add new profile item.

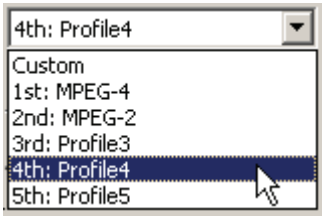


Input name of the second profile item in name area, then click **OK** button to save it.



Now you can configure the second profile item as same as for the first profile item.

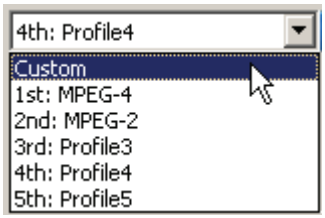
You can select anyone profile item from pull-down menu to configure it at anytime.



Micro Pocket DVR Desktop can keep maximum 9 profile items for a device at the same time. Certainly, only one profile item is valid on once. You can switch one to another profile item via LCD menu.

After you finish configuration for all profile items that you set, you can click button to save all configuration.

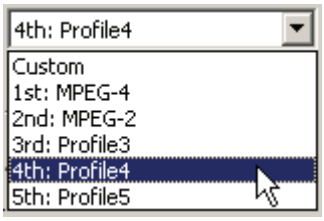
The special **Custom** profile can't be edit on Micro Pocket DVR Desktop, it only valid on LCD menu.



You can change configuration in profile **Custom** on Micro Pocket DVR via LCD menu only, all changes of configuration that you set on Micro Pocket DVR is active only when you set Custom as default profile of Micro Pocket DVR via LCD menu.

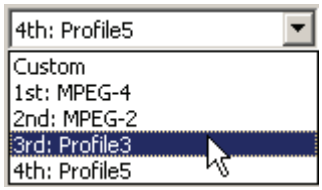
7.9.2 Delete Profile Item

If you want to delete anyone profile item, please select profile item that you want to delete from pull-down menu.



Then click to delete it.

After you delete anyone profile item, the profile item after it will ascend to current arrange position.



7.9.3 Load Old Configuration

If you want to cancel all current configurations, you can click to reload the last saved configuration, all changes that don't be saved will be lost.

7.9.4 Reset selected profile item to default configuration

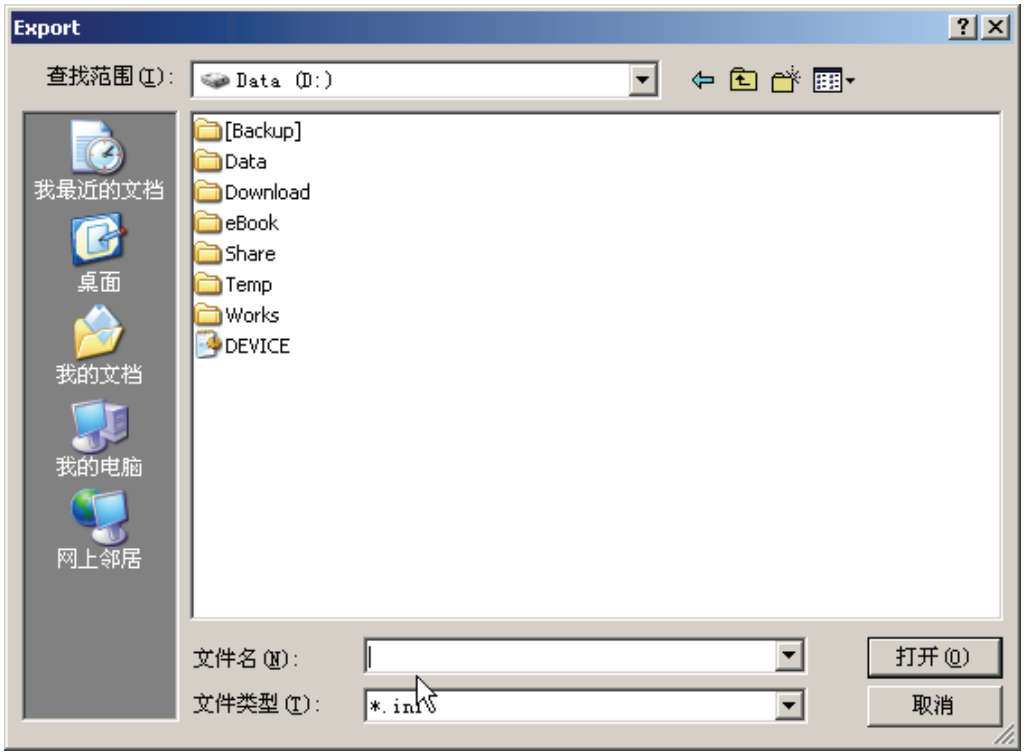
Sometime maybe you want to record different standard TV or video signal, you can set anyone profile item to special video standard, the resolution, frame & correlative internal parameter will be set to proper depend on the video standard, and the valid coordinate range of Lap Timer data display will be adjusted to proper position automatically.

You can set different profile item for different configuration, but sometimes you find the special profile with many error or inapplicable

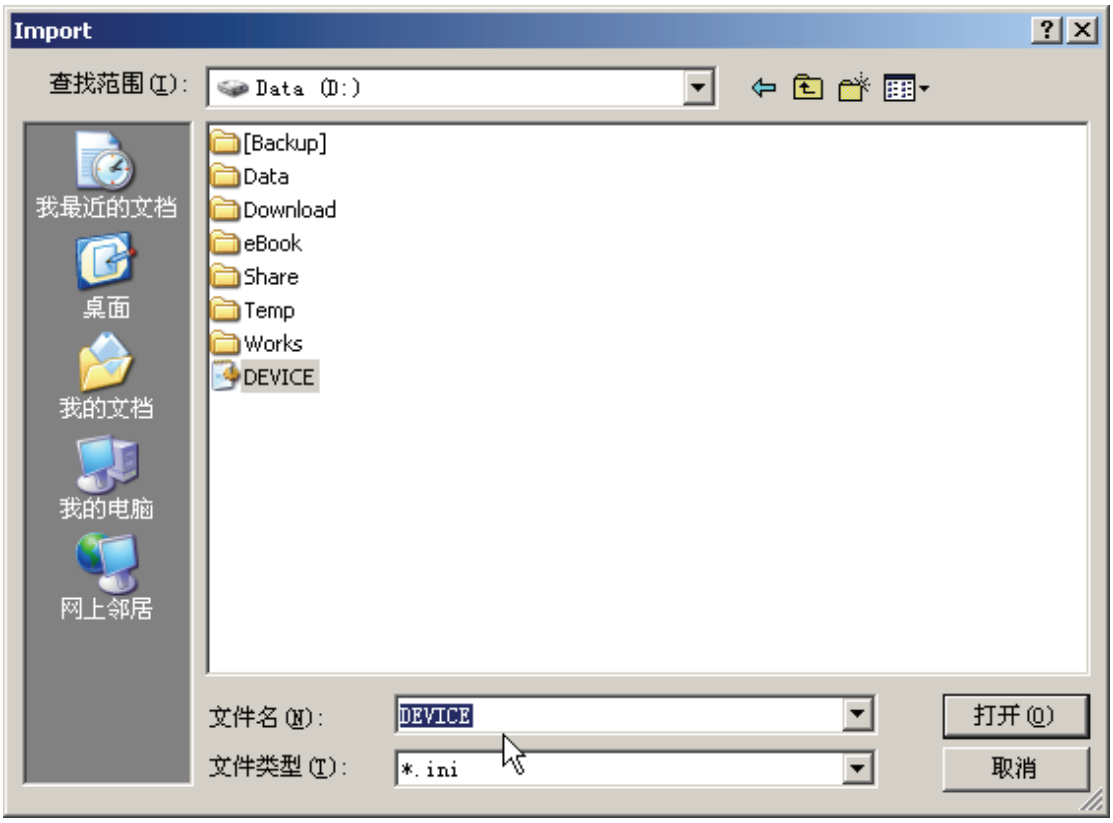
configuration in profile, you can select this profile, and then click to restore all configuration to default values.

7.9.5 Backup & Restore Configuration File

When you finish configuration for all profile item, to avoid correctly configuration be lost or confused, after you save all configuration, you can export configuration file to appointed disk or folder.



Certainly, you can reload configuration data that you backup previously to restore Micro Pocket DVR to special configuration, import backup configuration data from disk or folder that you saved backup.



7.9.6 Reboot Micro Pocket DVR after you finish configuration

After you finish all profile configurations, you can reboot Micro Pocket DVR using current profile configuration via Desktop software, click to reboot Micro Pocket DVR immediately.

When you click to reboot Micro Pocket DVR, system will prompt you to get confirm again.

Click **Yes (Y)** button to reboot Micro Pocket DVR.

The Reboot function is valid only when you connect Micro Pocket DVR to PC via network connection.

If you startup Desktop software via CF card that connected to PC, the

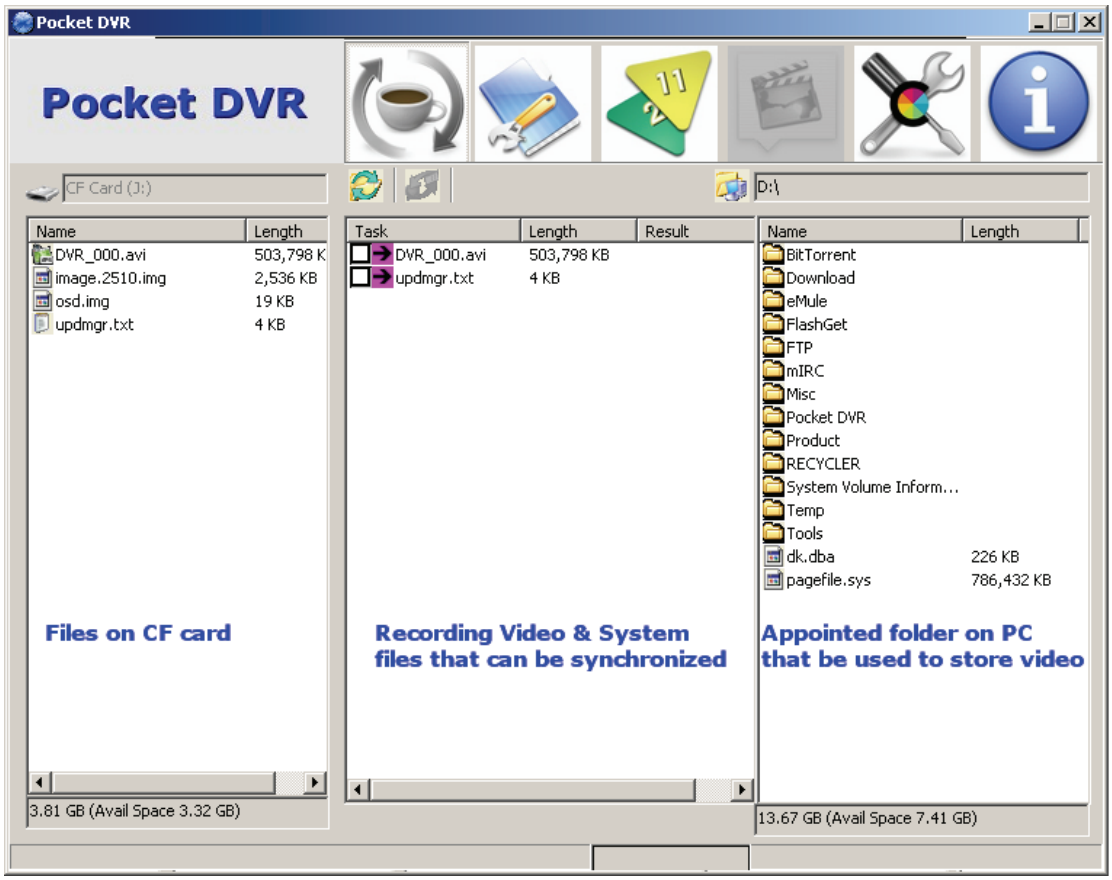
Reboot button will be disable.

7.9.7 Switch Configuration Item

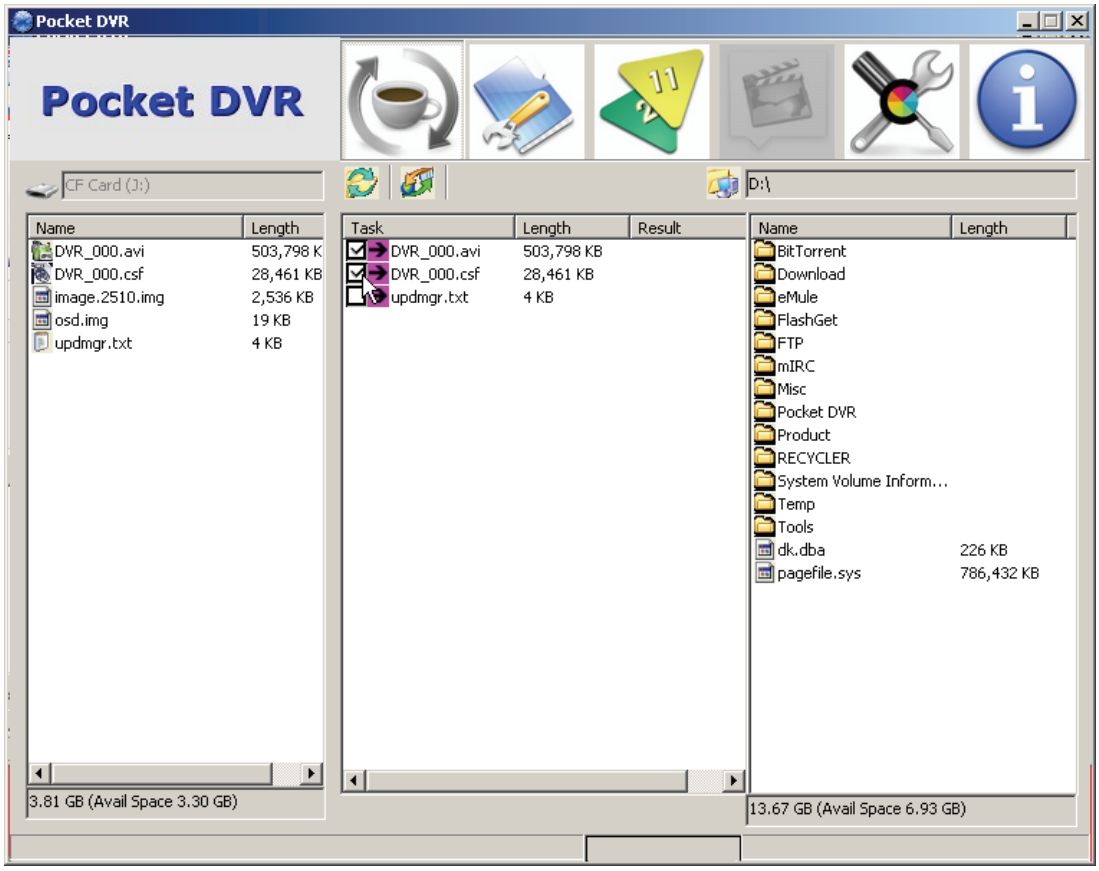
You can switch configuration item via LCD Menu during use Micro Pocket DVR.

8. Synchronize Video between CF & PC

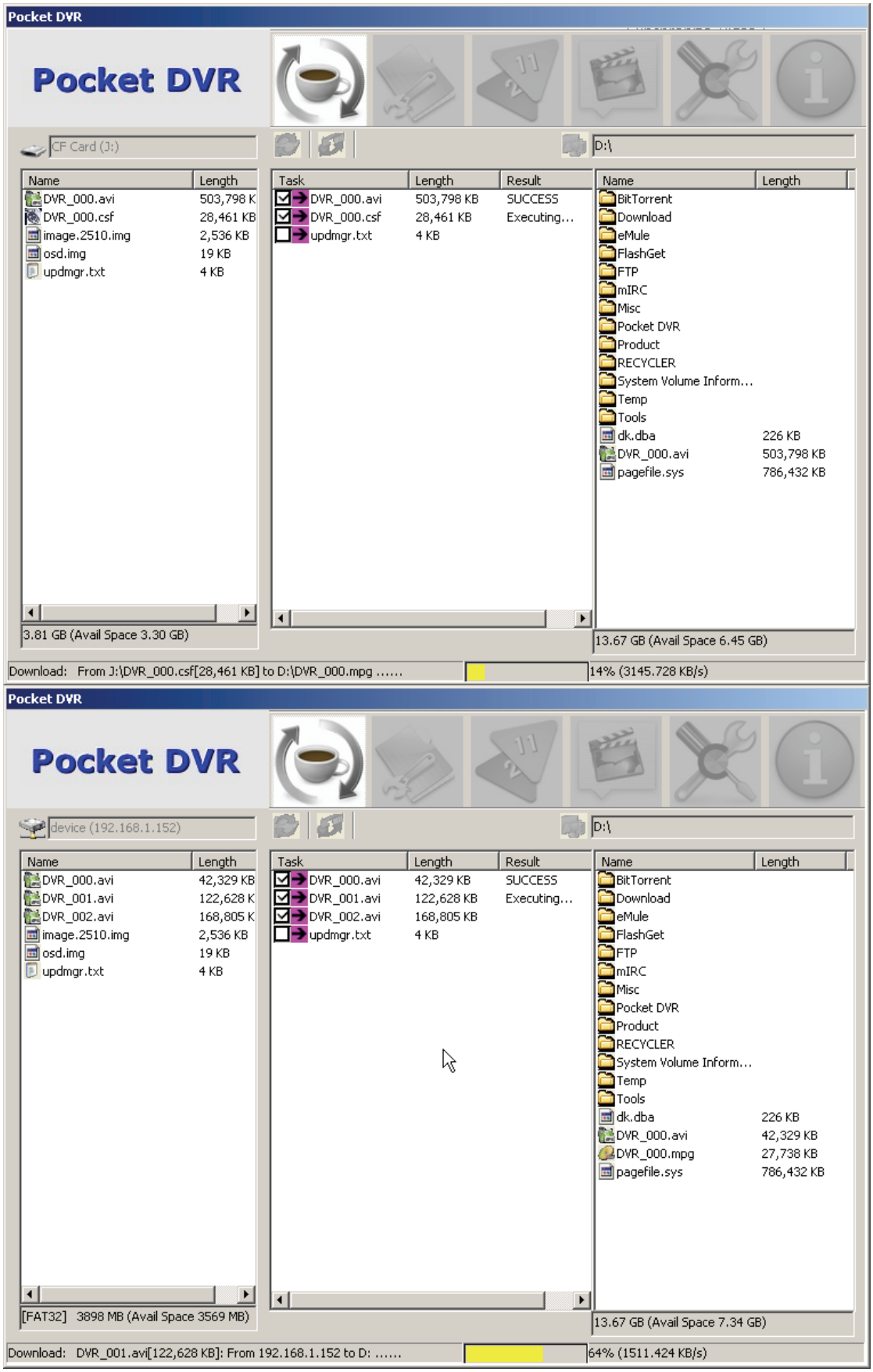
Click **Sync** button to synchronize the recording video between CF card & PC.



Please select files that you want to synchronize on task column.



After you select all files that you want to synchronize, then click Sync button to start synchronization.



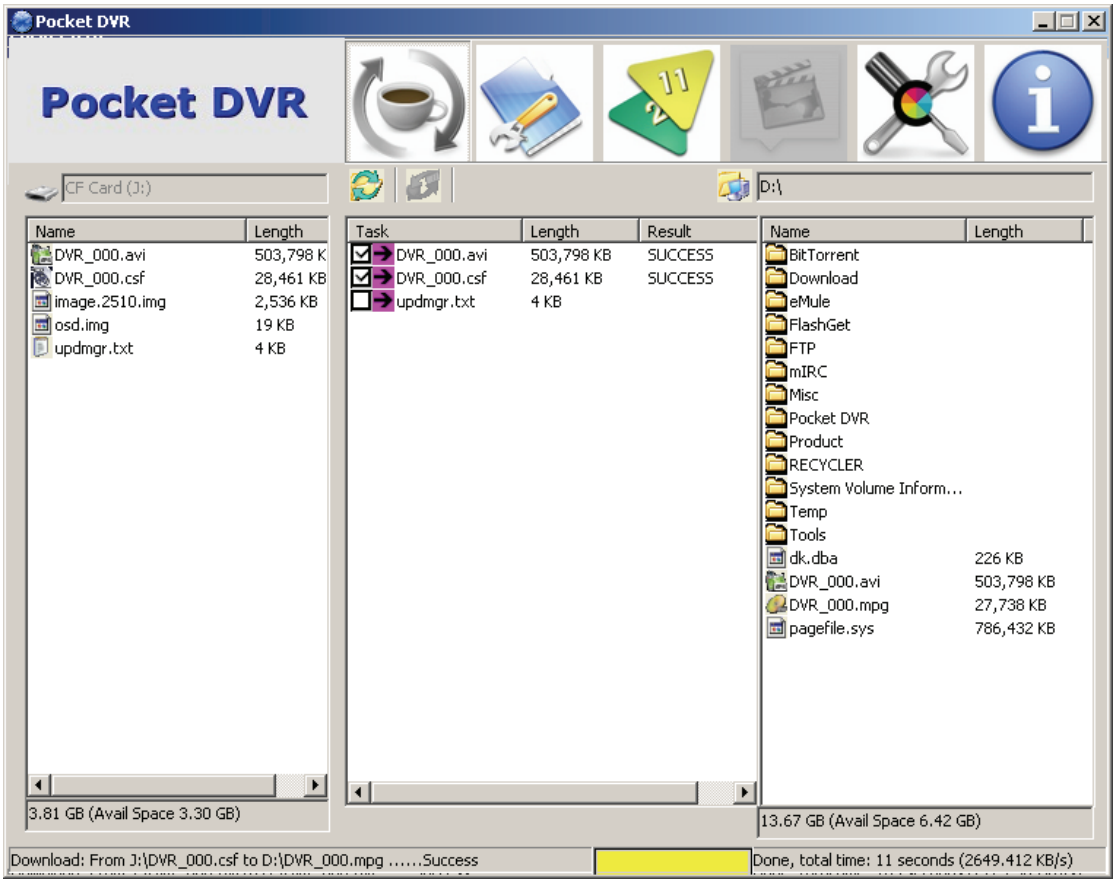
In task column, the result item will display status of files.

If you startup Desktop software via CF card, Desktop will display CF card on PC on button status bar, if you connect Micro Pocket DVR to PC via LAN connection, the IP address will be display on button status bar.

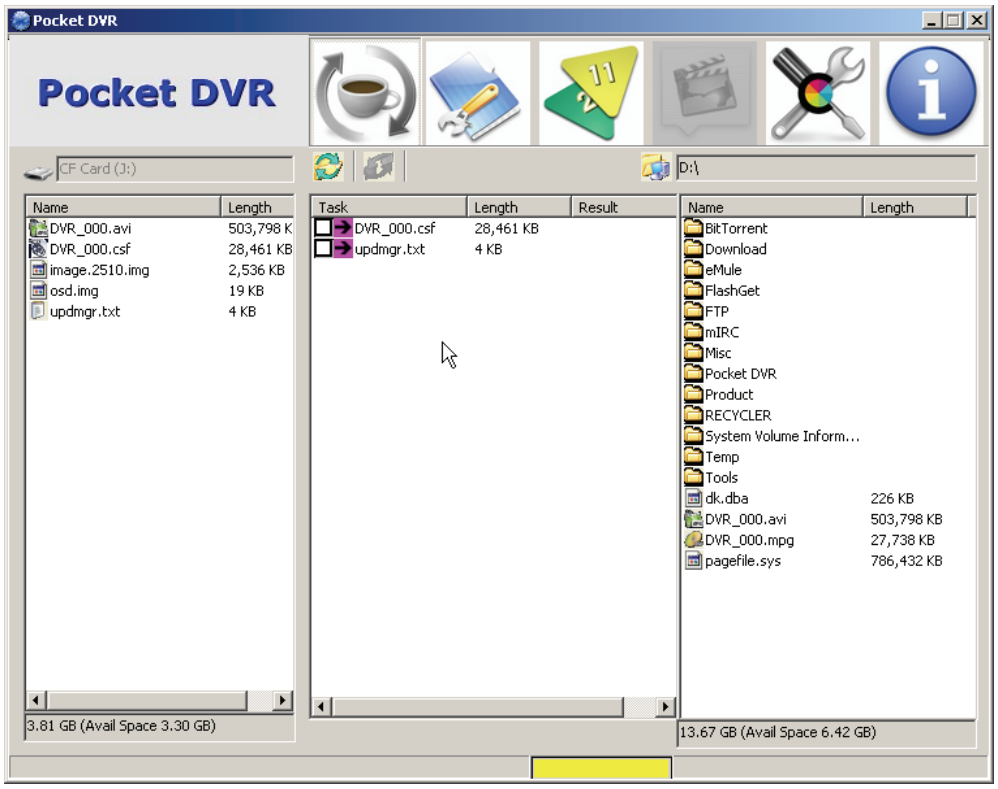
Executing... means the files being synchronizing, **SUCCESS** means the files had been synchronized successfully.

When a file being synchronizing, the yellow status bar will display on the button.

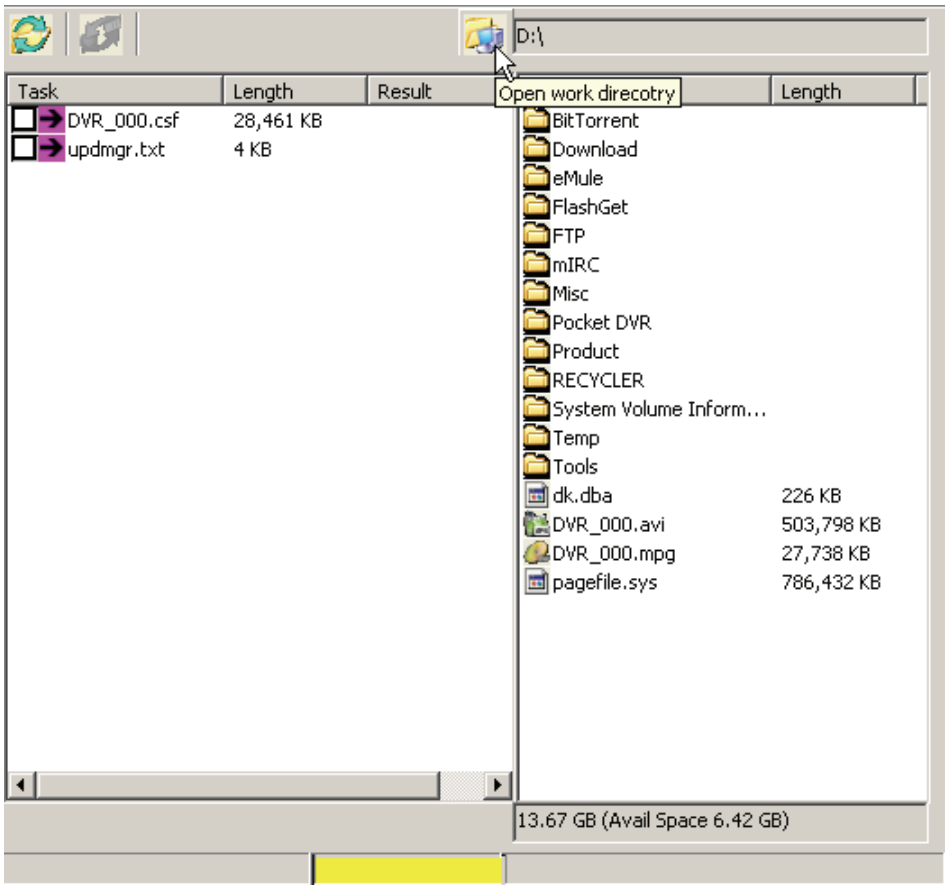
After all files are synchronized successfully, files will be synchronized to the folder on PC, you will find these files on the working folder column.



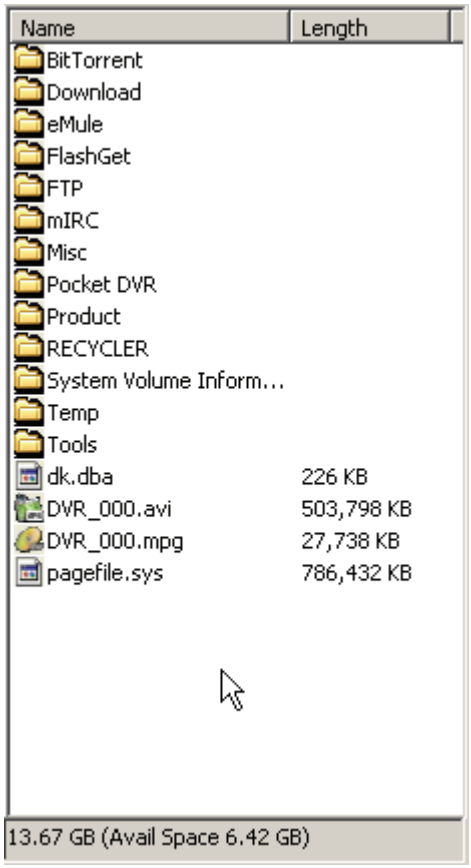
After synchronization, you can click refresh button to refurbish task column.



Click to open working folder on PC.

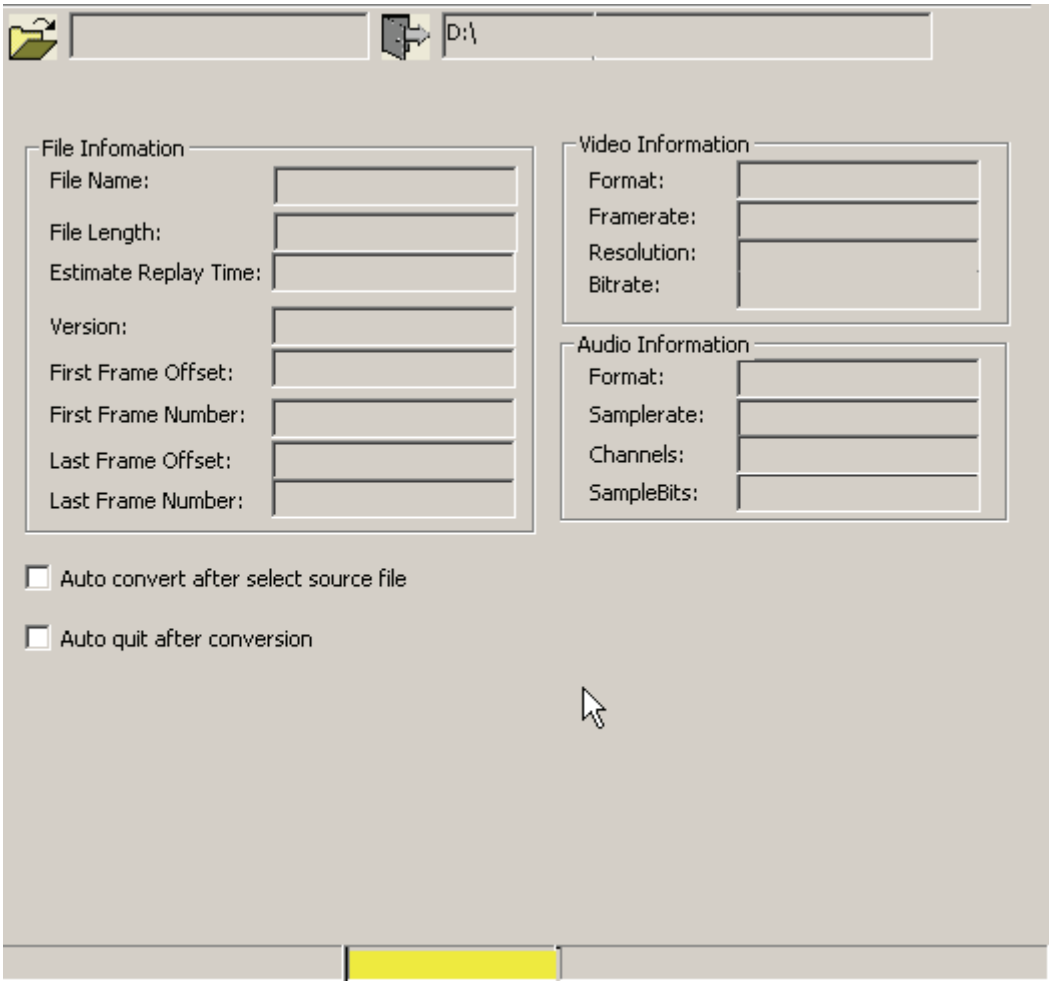


In synchronization, the .csf MPEG-2 recording file will be converted to standard MPEG-2 video automatically.



9. MPEG-2 Converter

Click **Conversion** button to render MPEG-2 recording video manually.

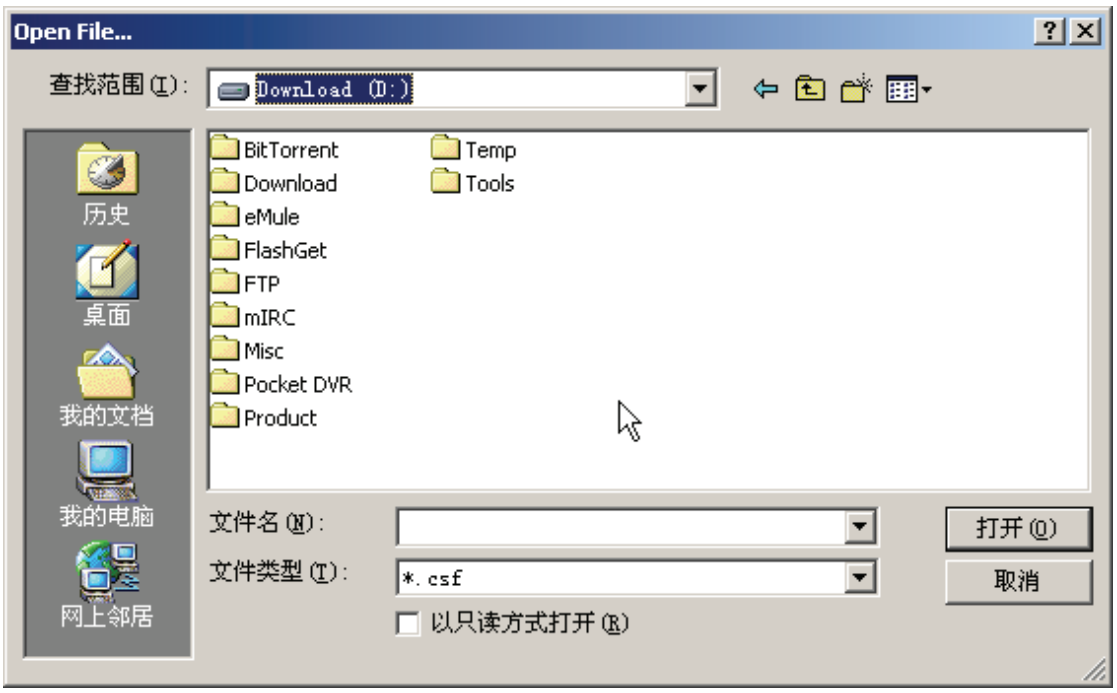


Recorded MPEG-2 file have to be converted to standard MPEG-2 video for later video replay, edit & burn. The conversion of MPEG-4 is not required.

Sometime maybe you copy many .csf MPEG-2 recording files to PC, and then convert them manually.

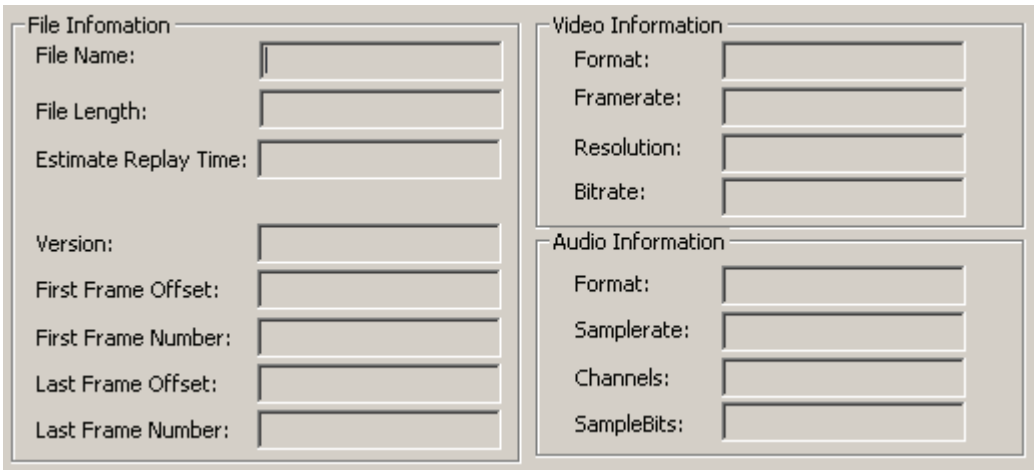
Click to open working folder on PC that you save .csf MPEG-2

files.



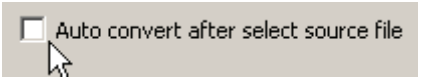
Then select .csf file that you want to convert.

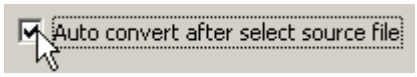
After you select the source file to convert, detailed information of the recorded MPEG-2 video will be displayed.



Click to convert the .csf file that you select.

The file can be converted automatically after you select the file if you enable automatically convert option.

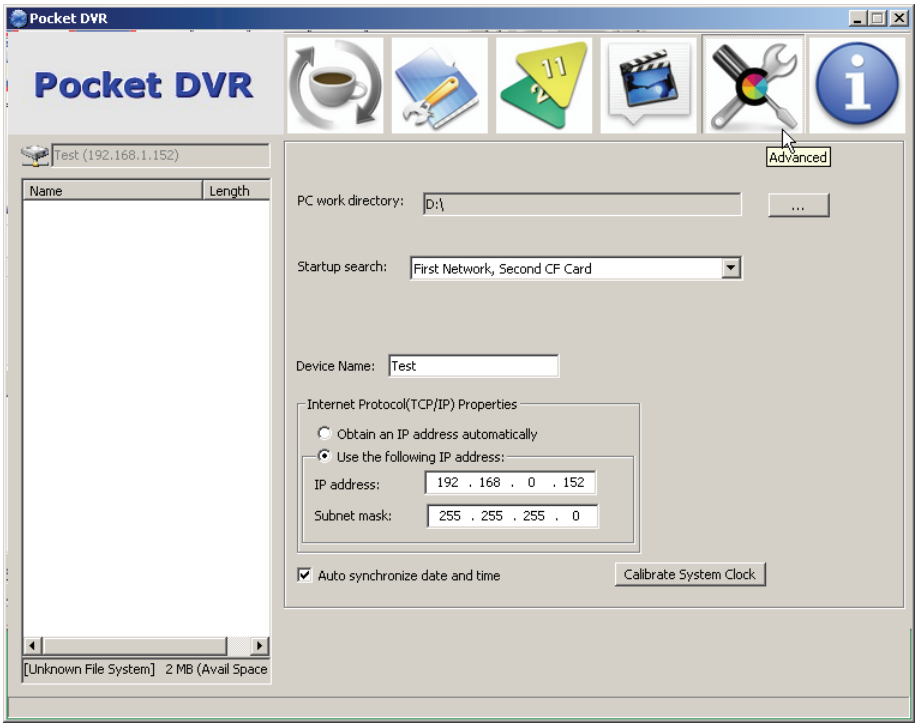


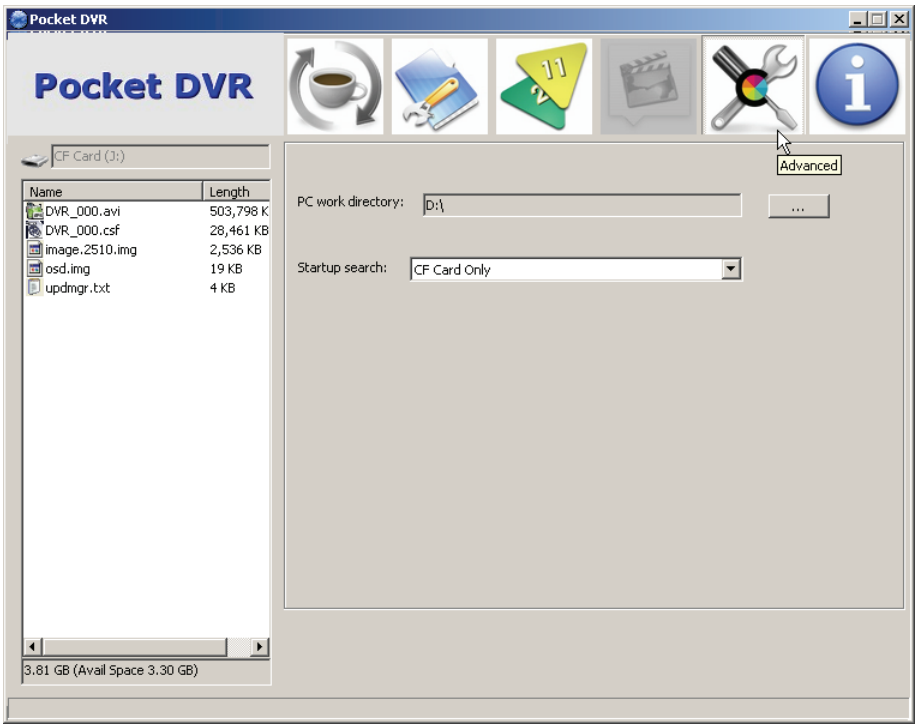


For better performance of conversion, it is recommended that source file is on the CF card in a card reader and target file is on the hard disk.

10. Advanced Configuration

Click **Advanced Configuration** button to configure system environment.

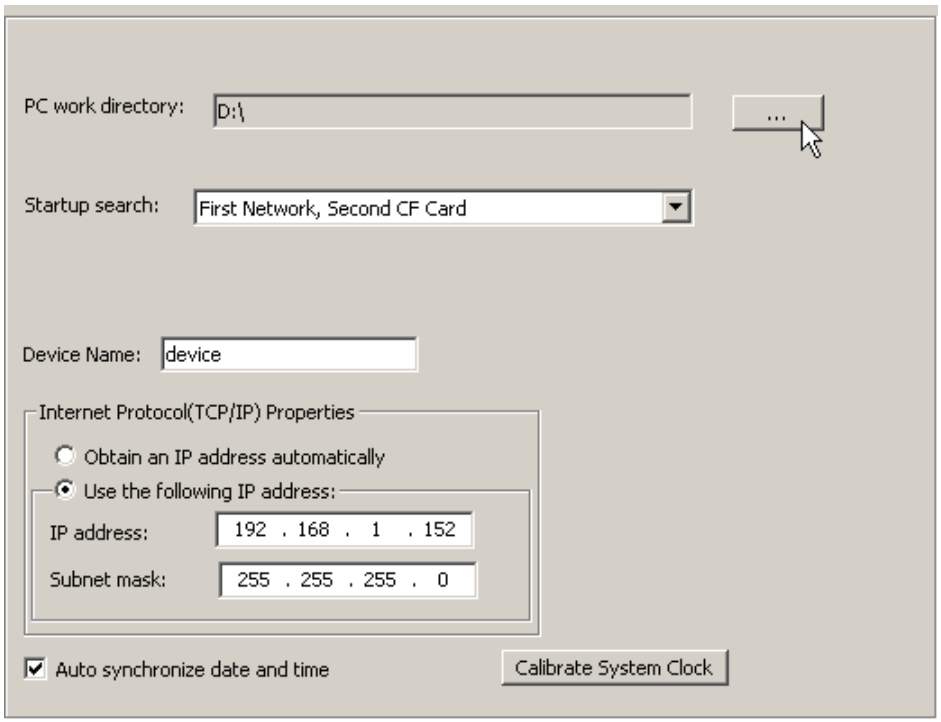




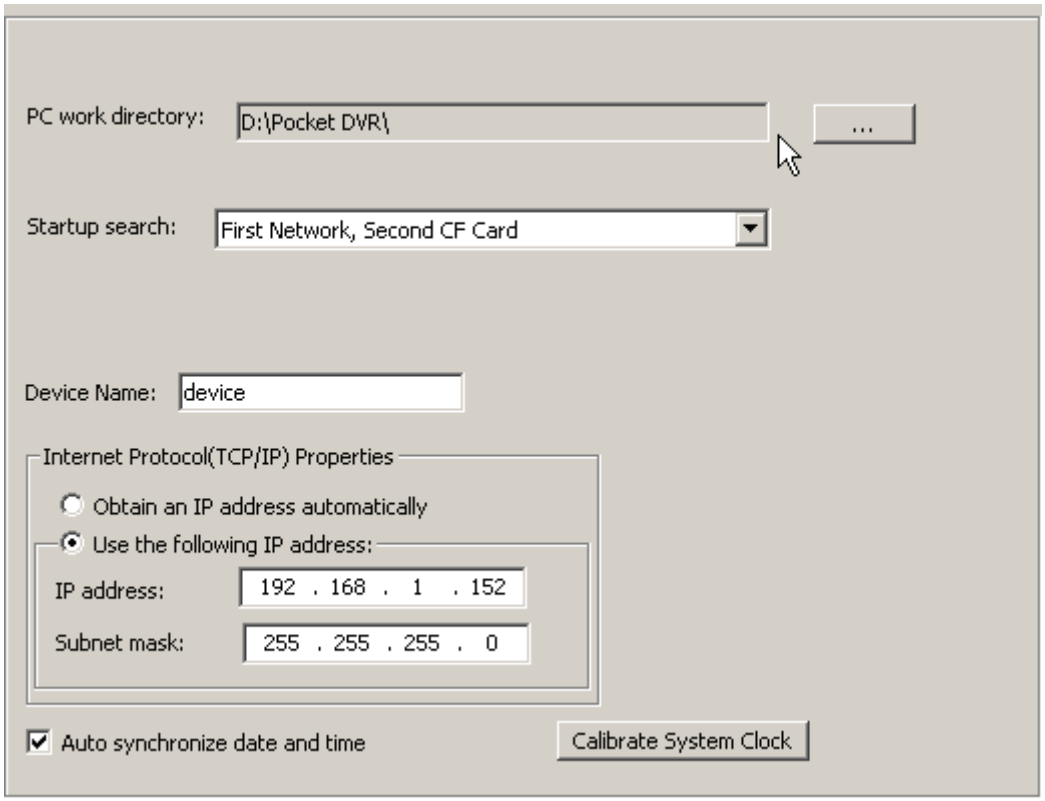
You can select working directory on PC to as synchronize folder, set search sequence for startup, change network configuration of Micro Pocket DVR, sync date & time, and calibrate DVR system clock.

10.1 Change Synchronize Folder

Click **...** button to select working directory on PC to as synchronize folder.



Click **OK** button to confirm your selection.



10.2 Configure Desktop Startup Method

Micro Pocket DVR Desktop will detect Network connection between Micro Pocket DVR & PC in first, if Desktop can't detect valid network connection, then it will detect CF card that you want to used in Micro Pocket DVR, please connect CF card to PC via card reader before you

start Micro Pocket DVR Desktop if you don't want to connect Micro Pocket DVR to PC via LAN.

The default sequence of Micro Pocket DVR Desktop is detecting valid network connection between Micro Pocket DVR & PC in first, then detect CF card if it can't find any valid net work connection. Certainly, you can change the default detection method in Micro Pocket DVR Desktop software.

10.2.1 Startup Desktop software via Network Connection

Connect Network Sync cable that in package between Micro Pocket DVR & PC or switch/HUB in first, then double click to start-up Micro Pocket DVR Desktop.

Micro Pocket DVR Desktop will search valid network connection.

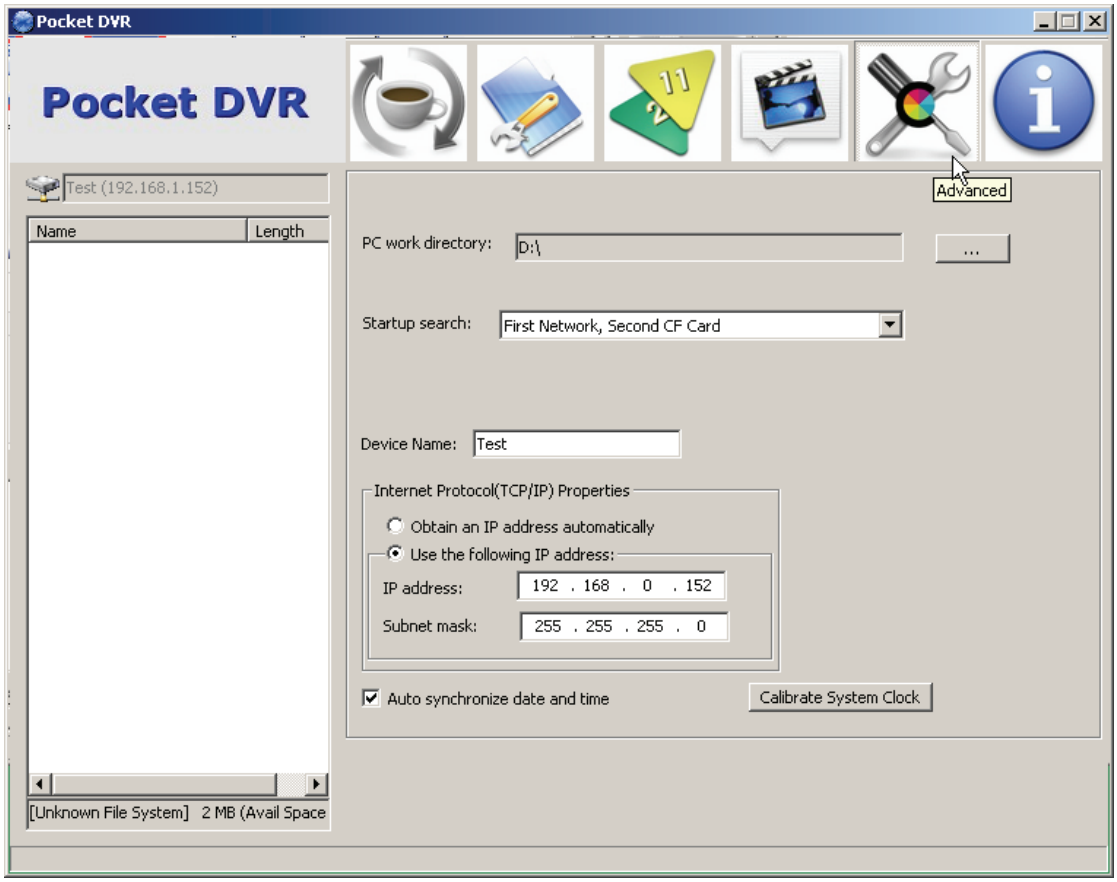
After Micro Pocket DVR Desktop detects valid network connection, it wills start-up successfully.

The default IP address of Micro Pocket DVR is 192.168.0.152, please ensure your PC on same IP segment for first connection. If your PC & Micro Pocket DVR with different IP address segment, Desktop software will prompt you.

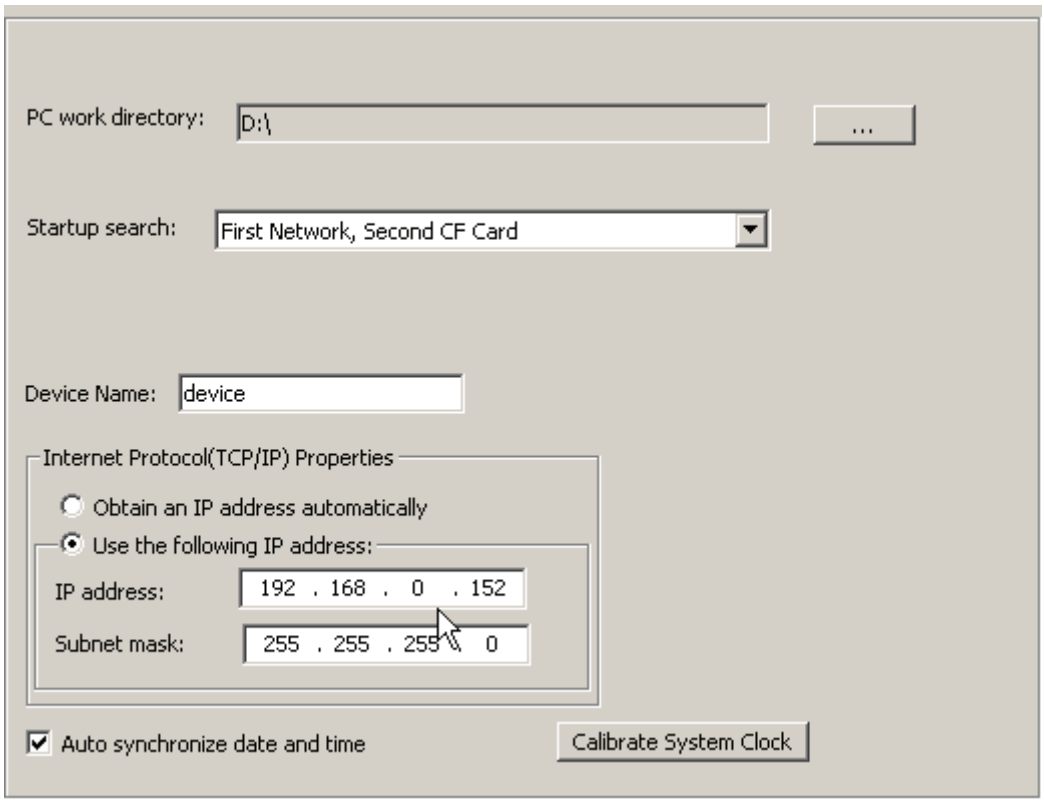
You can change IP address of your PC to same IP segment with Micro Pocket DVR, such as 192.168.0.100, and then restart Desktop software again.

After you startup Desktop software successfully, you can change IP address of Micro Pocket DVR to same IP segment with your local LAN.

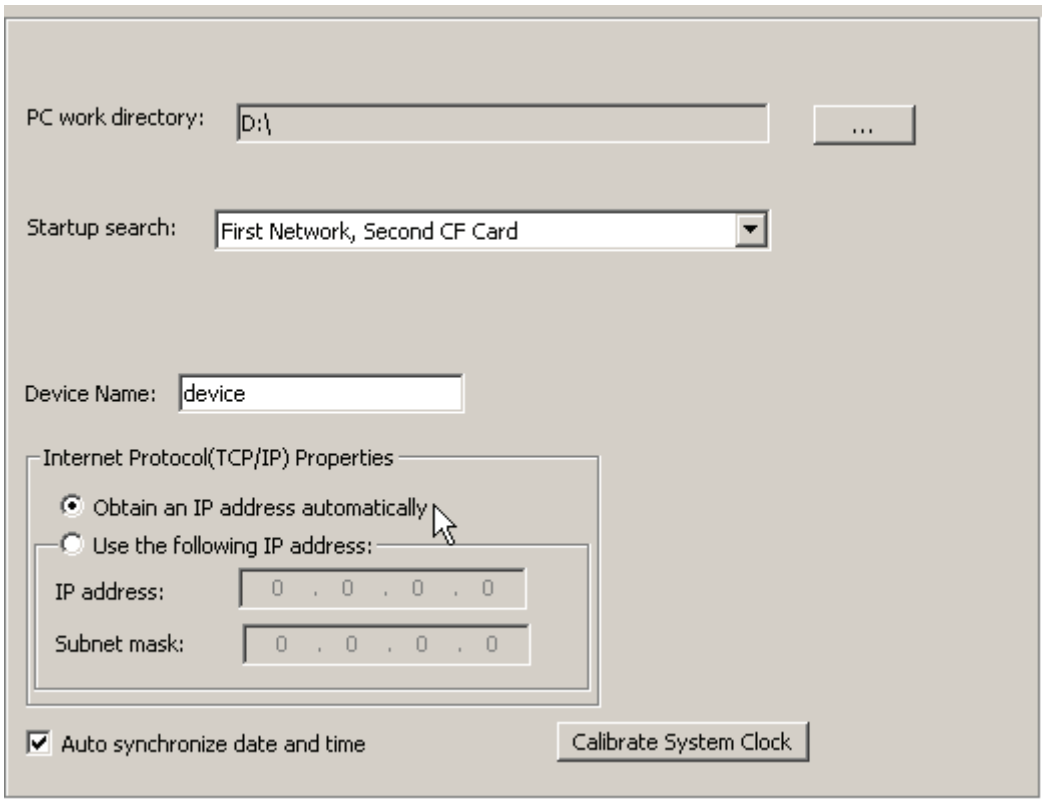
Click **Advanced Configuration** button to configure network environment of Micro Pocket DVR connection.



You can change IP address of Micro Pocket DVR manually.



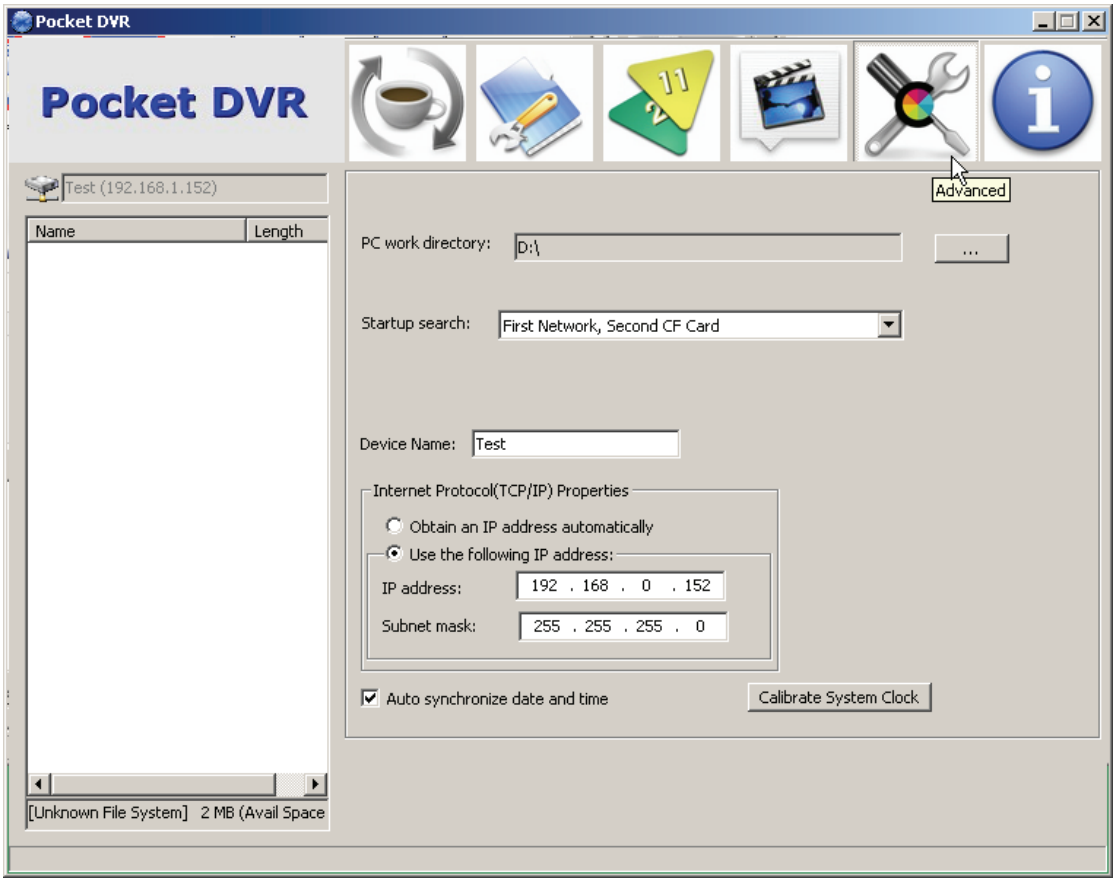
Or you can let Micro Pocket DVR obtain IP address from DHCP server on your local LAN if you connect Micro Pocket DVR to router or switch. But please notice, the router or switch that be connected Micro Pocket DVR must support MDI/MDI-X connection.



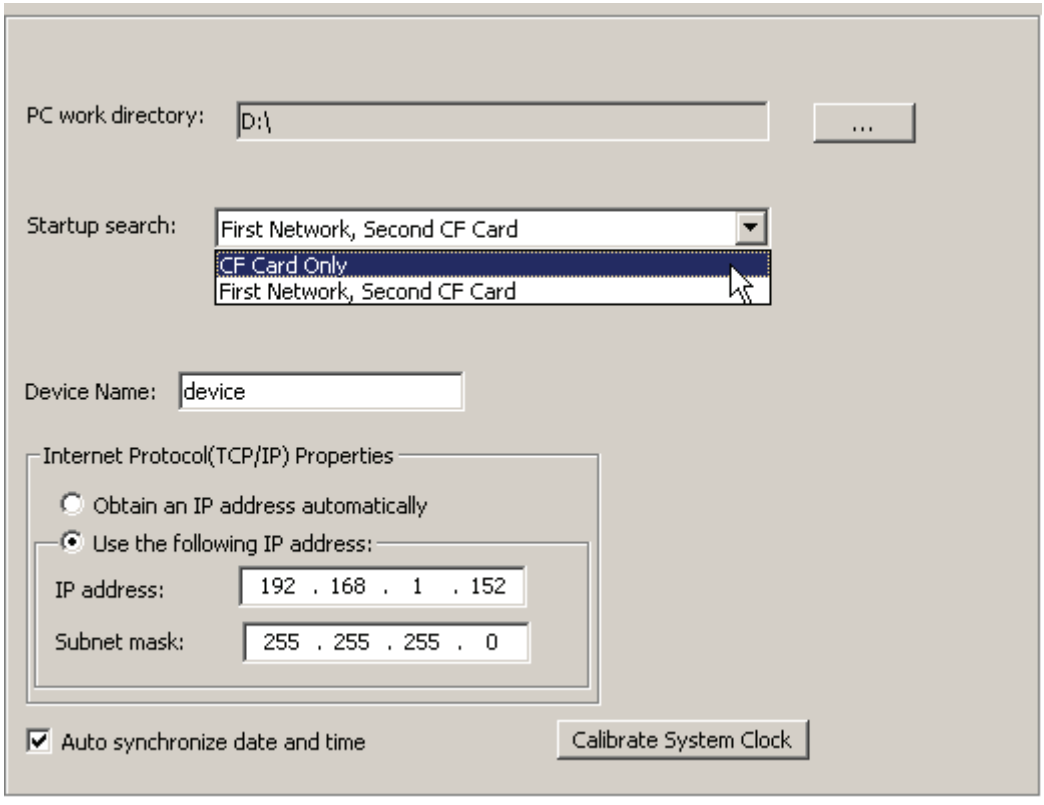
10.2.2 Startup Desktop software via CF card Connection

Change **Startup Search** option from default configuration to **CF Card only**, then you can startup Micro Pocket DVR Desktop via CF card that connect to PC without network connection.

Click **Advanced Configuration** button to configure connection configuration.



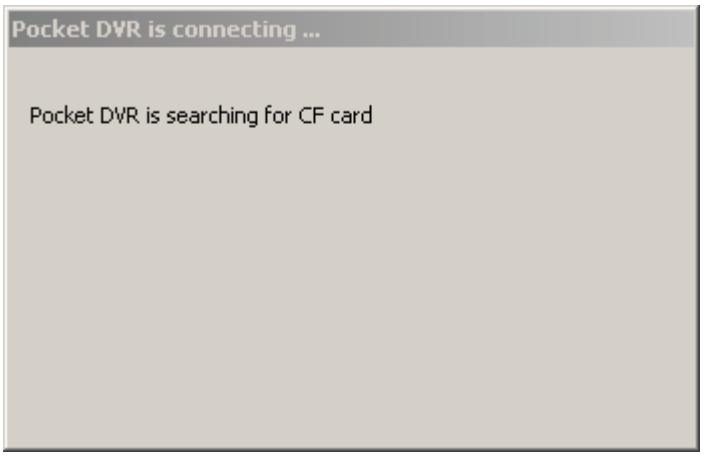
Then set **Startup Search** option to **CF Card Only** item.



After you configure it, you can startup Desktop software only via CF card without network connection for the future.

Connect CF card to PC via card reader in first, then double click to start-up Micro Pocket DVR Desktop.

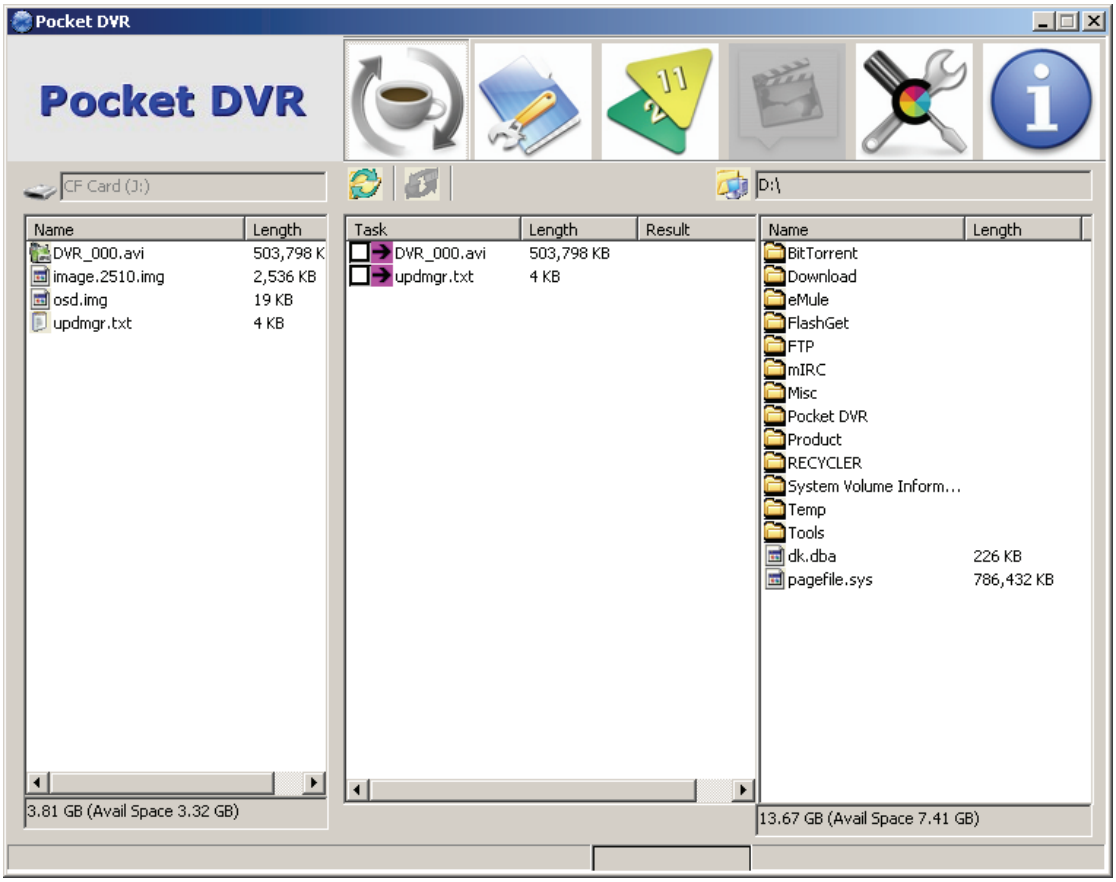
Micro Pocket DVR Desktop will search CF card on PC.



If CF card can't be connected to PC correctly or no CF card be connected to PC, Micro Pocket DVR Desktop will display error message to prompt you connect CF card to PC correctly.

Pocket DVR
Can't find Network connection or CF card, Please ensure device connected to PC or CF card be inserted to PC correctly!
确定

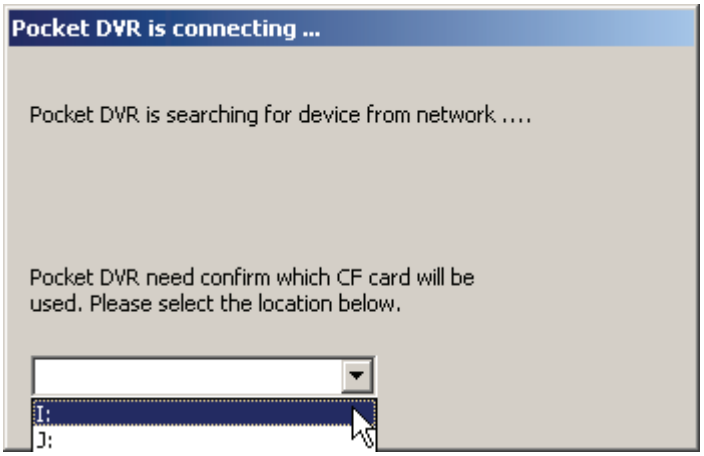
If CF card that you connect to PC had been used in Micro Pocket DVR or be initialized by Micro Pocket DVR Desktop, Micro Pocket DVR Desktop will detect the DEVICE.INI file on the root directly of CF card, and Micro Pocket DVR Desktop will start-up automatically.



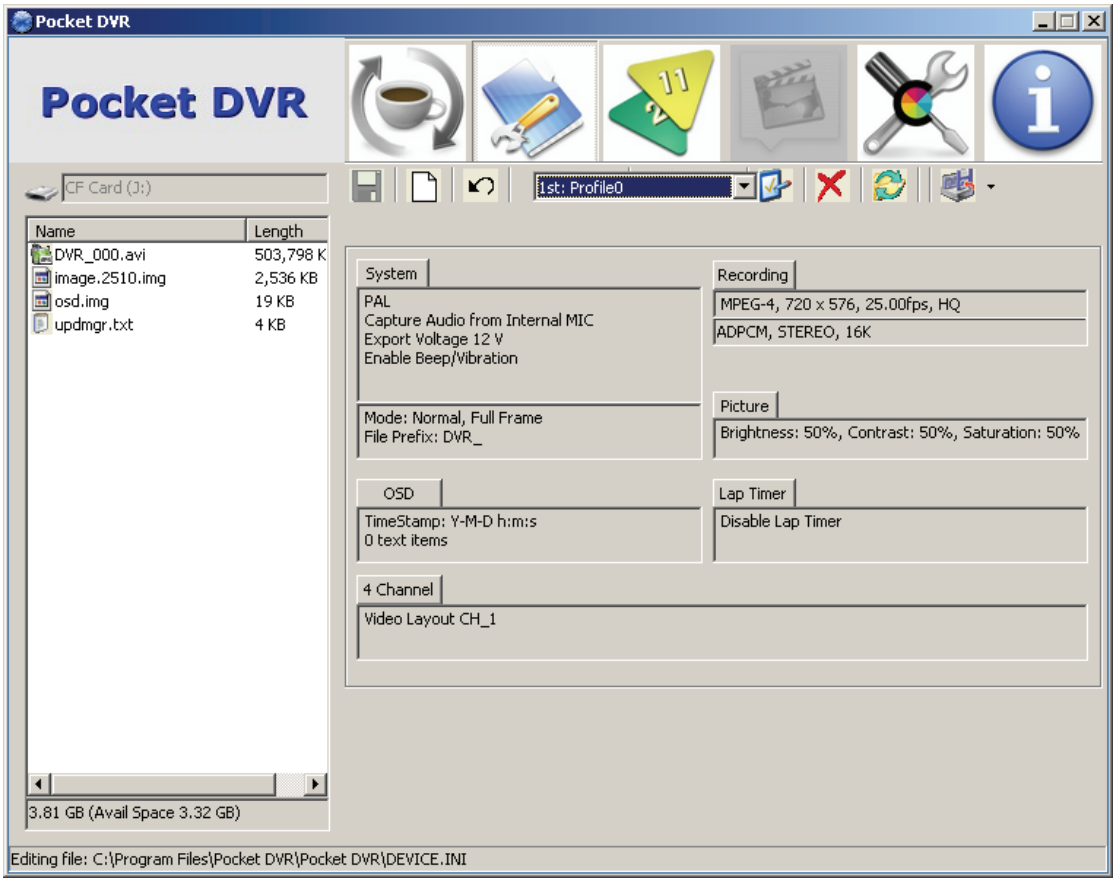
If Micro Pocket DVR Desktop detect a new CF card, system will prompt you select a correctly disk that point to CF card.

Pocket DVR is connecting ...
Pocket DVR is searching for device from network ....
Pocket DVR need confirm which CF card will be used. Please select the location below.

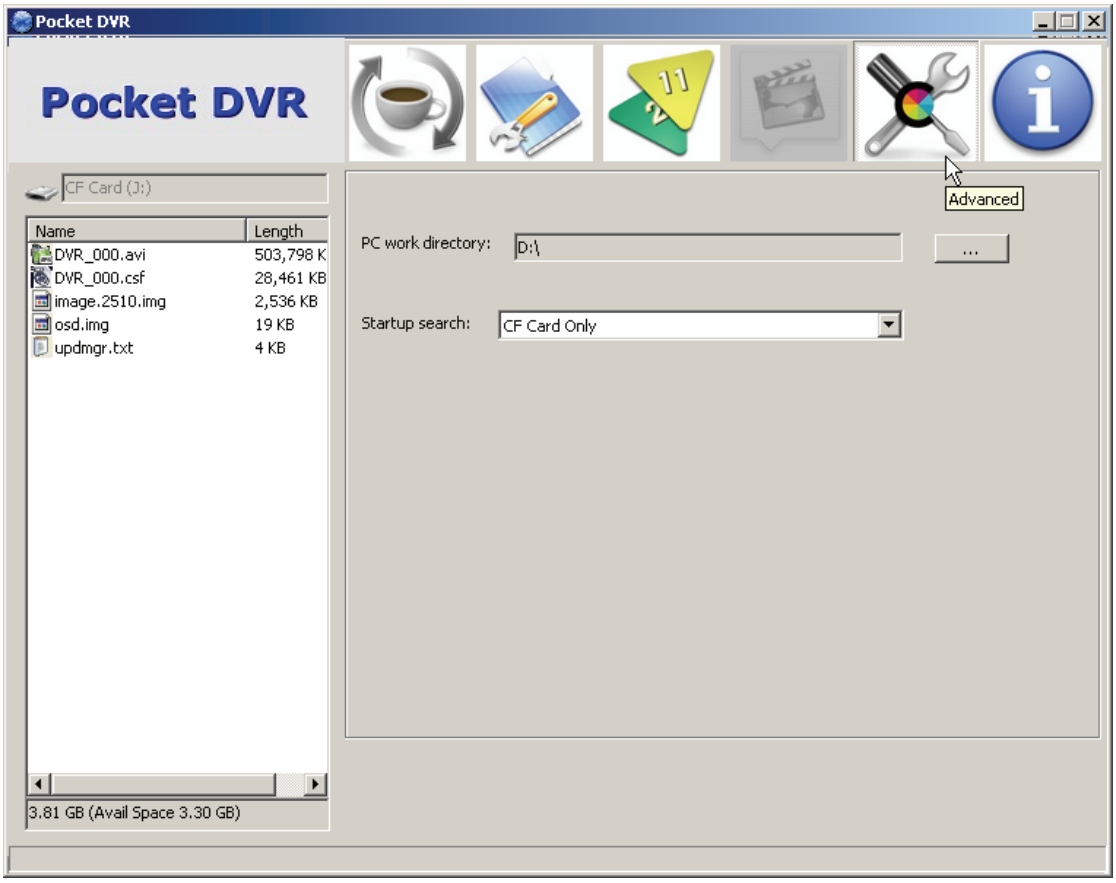
After you select correctly disk, Micro Pocket DVR Desktop will initialize CF card and create DEVICE.INI configuration file on root of CF card automatically.


Pocket DVR is connecting ...
Pocket DVR is searching for device from network ....
Pocket DVR need confirm which CF card will be used. Please select the location below.
I:
J:

Once Micro Pocket DVR Desktop finished initialization, it wills start-up automatically.

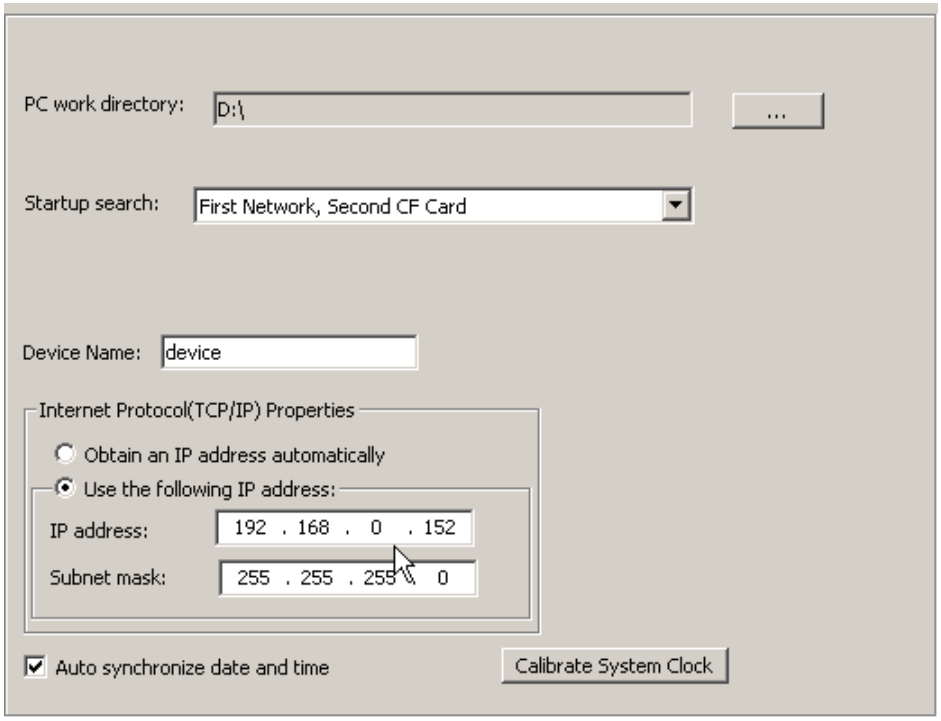


Some functions are active when Desktop software startup via network connection of Micro Pocket DVR only, because without network connection, you can't sync/operate Micro Pocket DVR online.

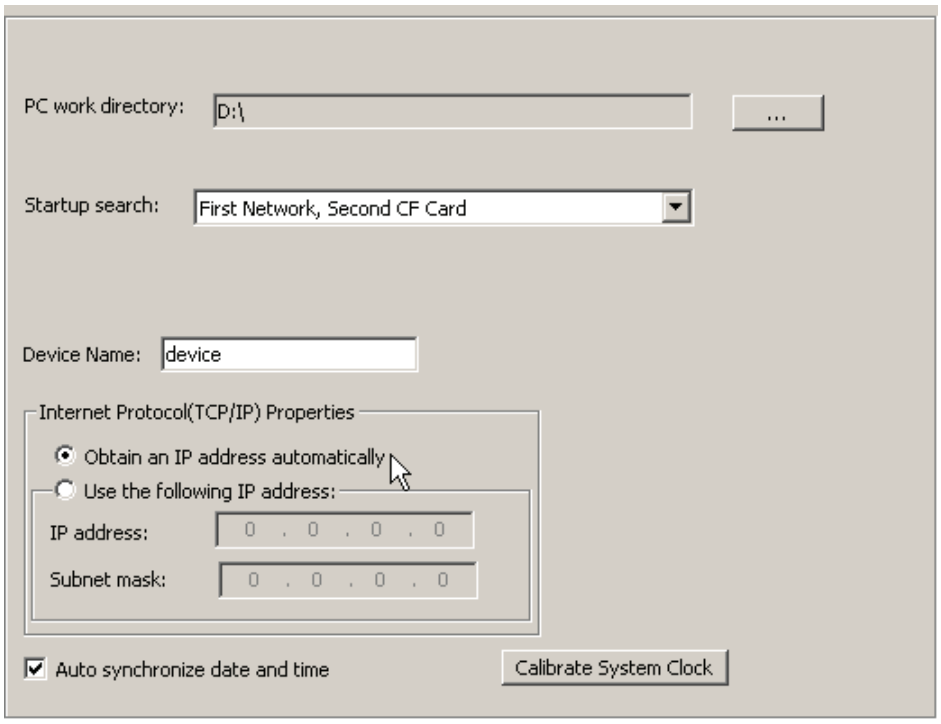


10.3 Configure Network Configuration of Micro Pocket DVR

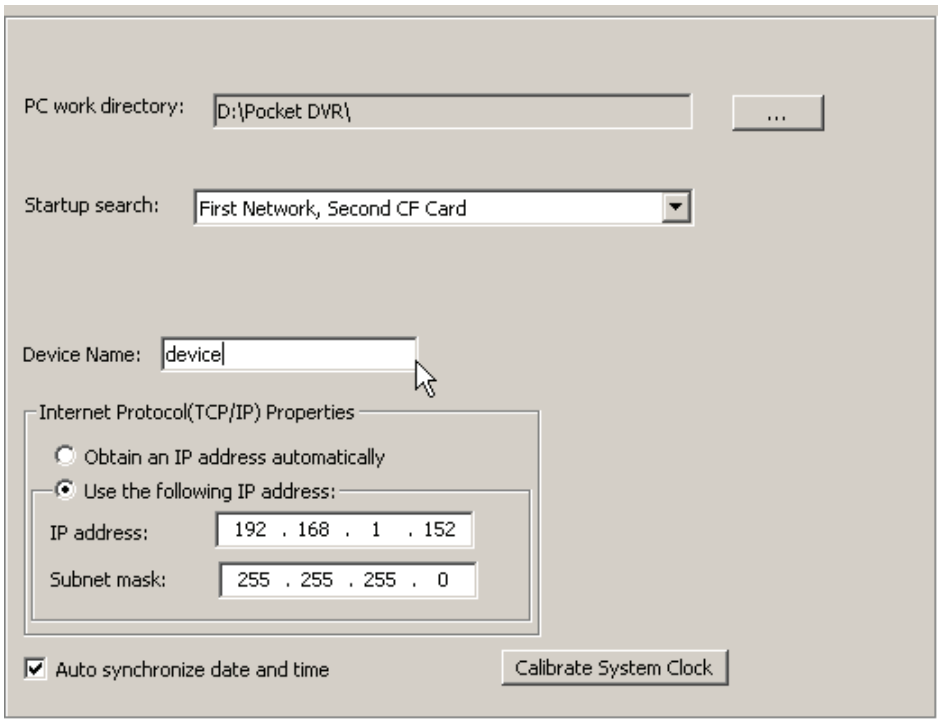
You can change IP address of Micro Pocket DVR manually.



Or you can let Micro Pocket DVR obtain IP address from DHCP server on your local LAN if you connect Micro Pocket DVR to router or switch. But please notice, the router or switch that be connected Micro Pocket DVR must support MDI/MDI-X connection.

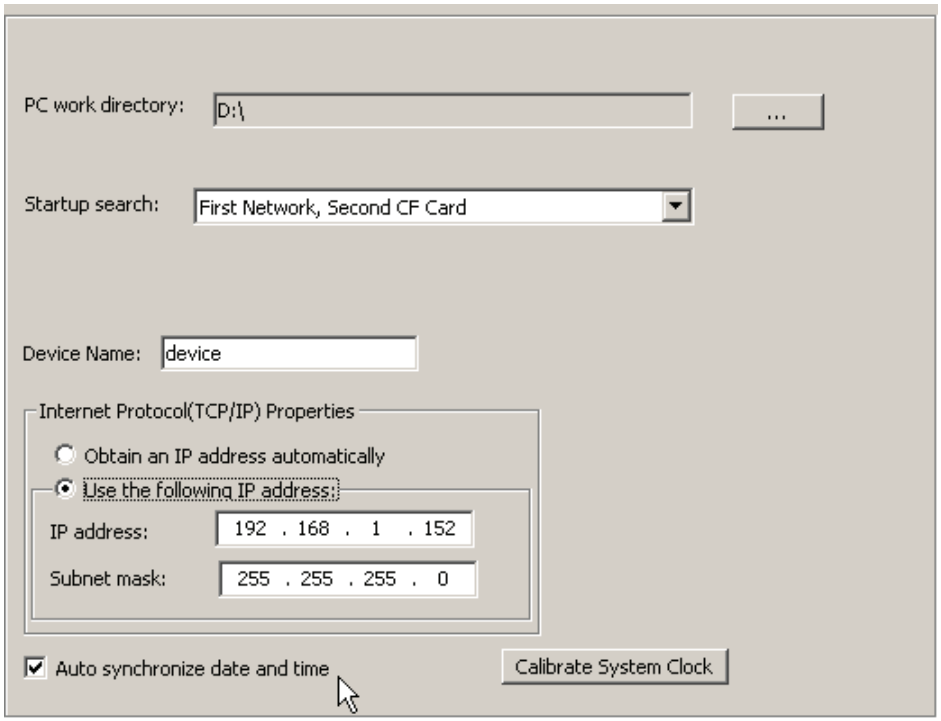


You can set different Device Name for Micro Pocket DVR if you or your team has some Micro Pocket DVR. Then you can differentiate them based on different device name.

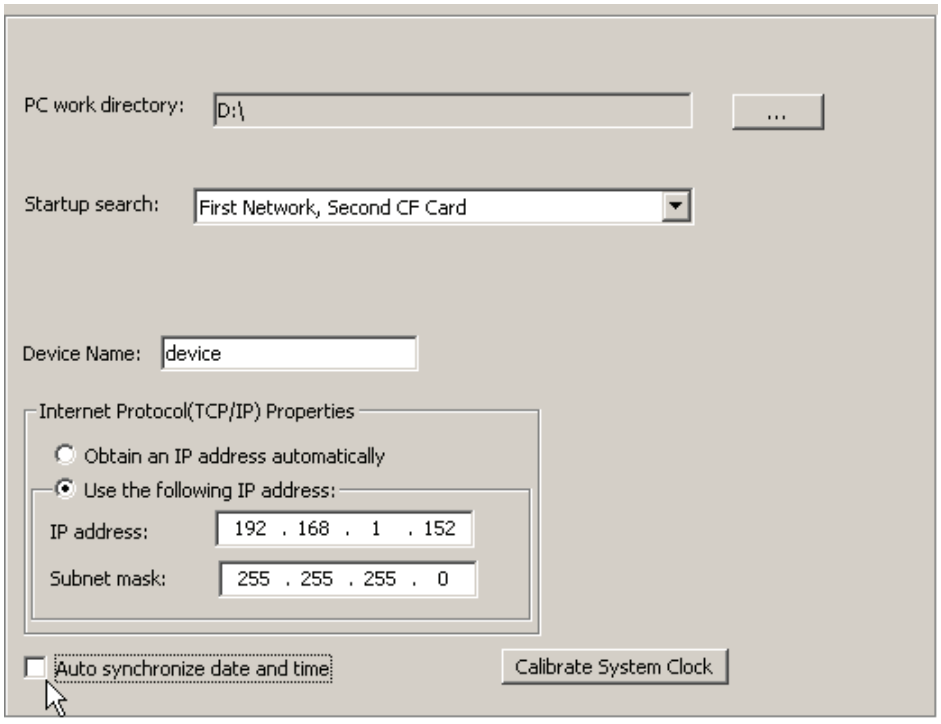


10.4 Auto Synchronize Date & Time between PC & Micro Pocket DVR

Micro Pocket DVR Desktop will synchronize Date & Time information based on configuration on PC automatically.



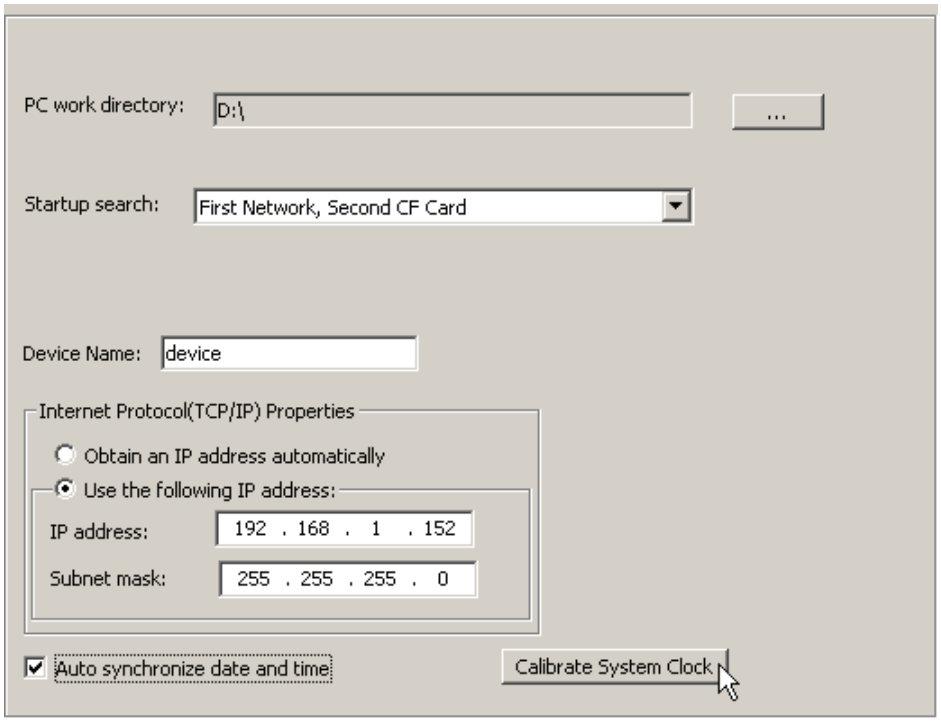
If you don't want to synchronize it, you can disable synchronized option.



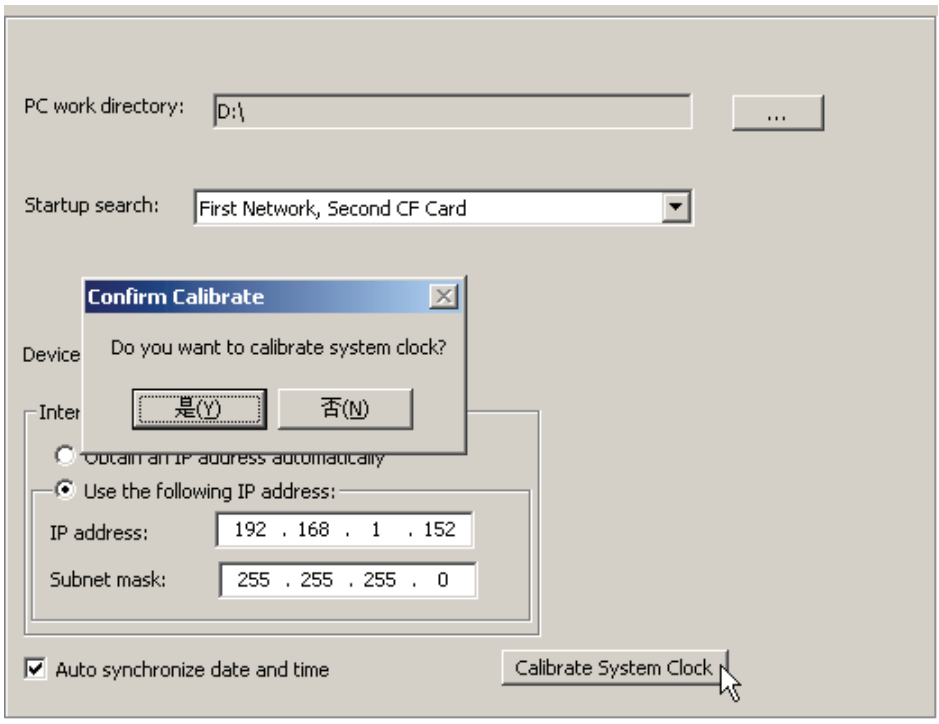
After you disable this option, Micro Pocket DVR Desktop will ignore the difference of date & time between PC and Micro Pocket DVR.

10.5 Calibrate System Clock of Micro Pocket DVR

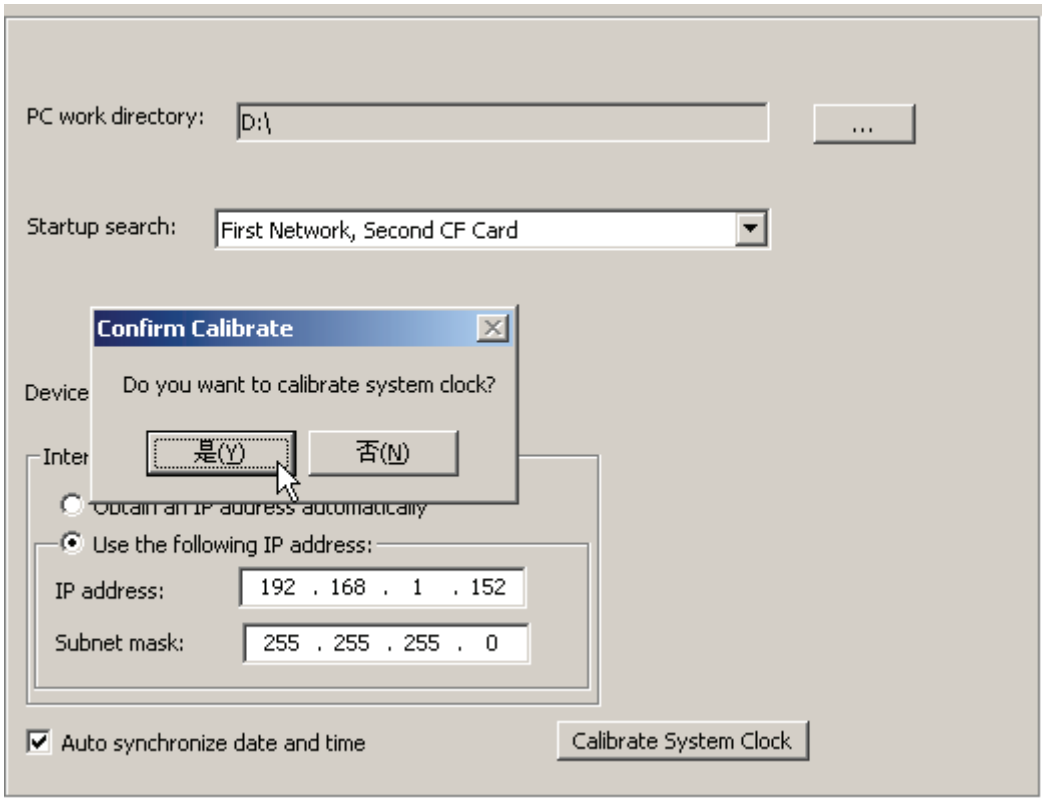
Sometimes the system clock of the Micro Pocket DVR need to be calibrated for accurate time recording, it is important for the Lap Timer. If you need to calibrate the system clock, click **Calibrate System Clock** button to calibrate the system clock of Micro Pocket DVR immediately.



After you click **Calibrate System Clock** button, Desktop will prompt you to get the confirm again.



Click **Yes (Y)** button to confirm it again.

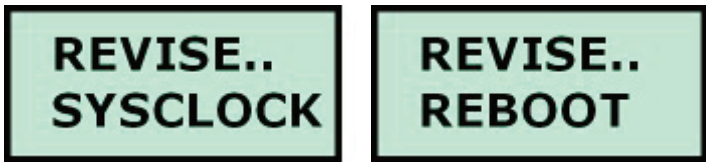


After you confirm it, the Micro Pocket DVR will begin to calibrate system clock.

After the system clock of Micro Pocket DVR is calibrated successfully, the Micro Pocket DVR will restart again.

When system clock of Micro Pocket DVR be calibrated & rebooted, LCD on Micro Pocket DVR will display correlative status information.

10.5.1 Calibrate System Clock of Micro Pocket DVR I



After the system clock of Micro Pocket DVR is calibrated successfully, the Micro Pocket DVR will restart again.

11. About

Click **About** button to get the details information of Micro Pocket DVR Desktop.

12. Configure Micro Pocket DVR using LCD

12.1 Configure Micro Pocket DVR I using LCD Menu

12.1.1 Enter/Quit LCD Configuration Menu

Hold push the 3-Position button at least 3 seconds to enter LCD configuration menu, once you enter LCD configuration menu successfully, the LCD will display valid menu/menu item & parameter of these menu item depend on your Micro Pocket DVR I version.

After you finish configuration, press button or Key on IR remote control to quit to upper menu.

You may need press button or Key on IR remote control one or two times once depend on your position in menu.

Once you enter the LCD configuration menu, the system will wait for you to select & configure, if you don't press any buttons, the system will quit the LCD configuration menu after 10 sec automatically.

12.1.2 Configure Micro Pocket DVR I

You can configure Micro Pocket DVR I in LCD menu via push switch/button or IR remote control.

12.1.2.1 Configure Micro Pocket DVR I using switch/button

Once you enter LCD configuration menu, you can switch menu using **LEFT** & **RIGHT** position of 3-Position switch, then press button to select the menu/menu item which you want to configure, using **LEFT** & **RIGHT** position of 3-Position switch to select the parameter value & parameter area that you want to configure, and

then press button to save the configuration.

When you finish configuration, press button one or two times once to quit the LCD configuration menu.

12.1.2.2 Configure Micro Pocket DVR I using IR remote control

Once you enter LCD configuration menu, you can switch menu using & Key on IR remote control, then press Key to select the menu/menu item which you want to configure, using Key to select the parameter value & parameter area that you want to configure, and then press Key to save the configuration.

When you finish configuration, press Key one or two times once until to quit the LCD configuration menu.

12.1.3 LCD Configuration Menu Details

12.1.3.1 Menu

The valid menu of Micro Pocket DVR is:

- **VIDEO**
- **AUDIO**
- **RECORD**
- **OSD**
- **SYSTEM**
- **BEACON**

In LCD configuration menu, switch **LEFT** & **RIGHT** position of 3-Position switch or using Key on IR remote control to navigate these menus.

Press button or Key to quit configuration menu return to ready status.

12.1.3.2 VIDEO Menu

Menu	Menu Item	Parameter
VIDEO	VIDEO Standard	STANDARD • NTSC • NTSC-433 • PAL • SECAM

• Menu Item – VIDEO / Standard

Default parameter is **PAL**, please select correct video standard depend on your video source.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press ▲ ▼ Key to switch the video standard parameter, then press button or OK Key to save the current configuration, press button or ◀ Key to quit the **VIDEO / STANDARD** menu.

After you finish all video configuration, press button or ◀ Key to quit the **VIDEO** menu.

12.1.3.3 AUDIO Menu

Menu	Menu Item	Parameter
AUDIO	AUDIO Source	SOURCE • Line In • Ext MIC • Int MIC
	AUDIO Gain	GAIN • Low • Medium • High

• Menu Item – AUDIO / Source

Default parameter is **Line In**, please select **Ext MIC** if you use external microphone input, or select **Int MIC** if you use internal microphone in the Micro Pocket DVR.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to switch **Line In**, **Ext MIC** & **Int MIC** input, then press button or Key to save the current configuration, press button or Key to quit the **AUDIO / Source** menu.

• Menu Item – AUDIO / Gain

If you record audio from internal or external microphone, you can set different volume gain depend on the sensitivity of microphone to get the best audio quality.

If you record audio from line in signal, the volume gain is invalid.

You can set it on Desktop software too.

Switch **LEFT** & **RIGHT** position of ◖ 3-Position switch or press ▲ ▼ Key to switch **Low**, **Medium** & **High** volume gain when you using internal microphone or connect external microphone, then press ◖ button or OK Key to save the current configuration, press ● button or ◀ Key to quit the **AUDIO / Gain** menu.

After you finish all audio configuration, press ● button or ◀ Key to quit the **AUDIO** menu.

12.1.3.4 RECORD Menu

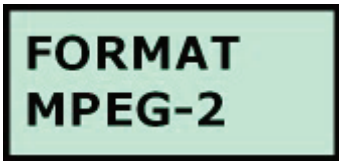
Menu	Menu Item	Parameter
RECORD	RECORD Format	FORMAT • MPEG-2 • MPEG-4
	RECORD Quality	QUALITY • LQ

		• EP • LP • SP • HQ
	RECORD Auto REC	AUTO REC • Disable • Enable
	RECORD Profile	PROFILE • Profile1 • Profile2 …… • Profile9 • Custom

• **Menu Item – RECORD / Format**

Default parameter is **MPEG-4**, please select correct video format to suit.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to switch **MPEG-2** & **MPEG-4** parameter, then press button or Key to save the current configuration, press button or Key to quit the **RECORD / FORMAT** menu.



• **Menu Item – RECORD / Quality**

Default parameter is **SP**, please select proper video quality to suit.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press

Key to switch **LQ**, **EP**, **LP**, **SP** & **HQ** quality, then press button

or Key to save the current configuration, press button or Key to quit the **RECORD / QUALITY** menu.

• **Menu Item – RECORD / Auto REC**

Default value of **Auto REC** is Disable, if you want to enable Micro Pocket DVR to record automatically when it power on, please switch setting to Enable Auto REC.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press

Key to switch **Disable** & **Enable** option, then press button or

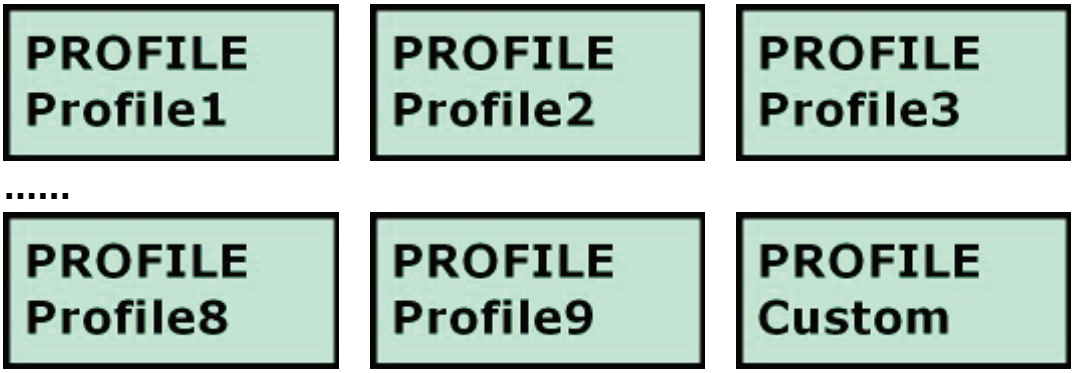
Key to save the current configuration, press button or Key to quit the **RECORD / AUTO REC** menu.

• **Menu Item – RECORD / Profile**

When you into this menu, you can change current profile item between all profile items that you configured.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press

Key to switch current profile item.



The special **Custom** profile can't be edit on Micro Pocket DVR Desktop, it only valid on LCD menu.

You can change configuration in profile **Custom** on Micro Pocket DVR I via LCD menu only, all changes of configuration that you set on Micro Pocket DVR I is active only when you set Custom as default profile of Micro Pocket DVR I via LCD menu.

Finish selecting, then press button or Key to save the current configuration, the Micro Pocket DVR I will reboot automatically to enable current profile item.

After you finish all record configuration, press button or Key to quit the **RECORD** menu if you don't change current profile item.

12.1.3.5 OSD Menu

Menu	Menu Item	Parameter

OSD	OSD Stamp	STAMP • Disable • Enable

• Menu Item – OSD / Stamp

Default parameter is **Disable**, please select **Enable** if you want to display date & time stamp on screen of recording video, if you set stamp option to Disable, the date & time stamp will disappear on screen.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to switch **Disable** & **Enable** option, then press button or Key to save the current configuration, press button or Key to quit the **OSD / STAMP** menu.

After you finish all audio configuration, press button or Key to quit the **OSD** menu.

12.1.3.6 SYSTEM Menu

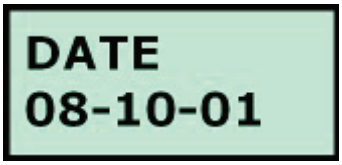
Menu	Menu Item	Parameter
SYSTEM	SYSTEM Date	DATE • 07-04-02
	SYSTEM Time	TIME • 12:00:00

	SYSTEM Beep	BEEP • Disable • Enable
	SYSTEM CAM Volt	CAM VOLT • *12V ~ 6V*
	SYSTEM PowerOff	POWEROFF • Disable • 5 Mins • 10 Mins • 15 Mins
	SYSTEM Bootload	BOOTLOAD • V1.0.2
	SYSTEM Firmware	FIRMWARE • 08-09-27

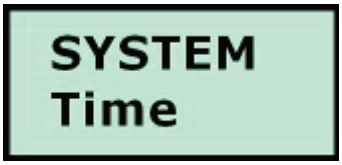
• Menu Item – SYSTEM / Date

The parameter format is yy-mm-dd, please set correct date.

Switch **RIGHT** position of 3-Position switch or use Key to select correct year; then switch **LEFT** position of 3-Position switch or press Key switch to month area, switch **RIGHT** position of 3-Position switch or press Key select correct month; then switch **LEFT** position of 3-Position switch or press Key switch to day area, switch **RIGHT** position of 3-Position switch or press Key select correct day, switch **LEFT** position of 3-Position switch or press Key will switch to year again, finish setting the correct date, press button or Key to save the current configuration, press button or Key to quit **SYSTEM / DATE** menu.



• **Menu Item – SYSTEM / Time**



The parameter format is hour-minute-second, please set correct time.

Switch **RIGHT** position of 3-Position switch or use Key to select correct hour; then switch **LEFT** position of 3-Position switch or press Key switch to minute area, switch **RIGHT** position of 3-Position switch or press Key select correct minute; hen switch **LEFT** position of 3-Position switch or press Key switch to second area, switch **RIGHT** position of 3-Position switch or press Key select correct second; switch **LEFT** position of 3-Position switch or press Key switch to hour again, finish setting the correct time, press button or Key to save the current configuration, press button or Key to quit **SYSTEM / TIME** menu.

• **Menu Item – SYSTEM / Beep**

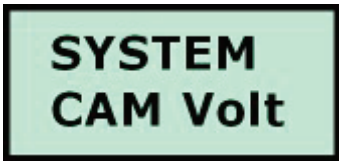
Micro Pocket DVR I will beep or vibrate to warn you when it starts or stops recording, in some special applications or occasion/environment,

you may want to turn this function off, and you can disable beep/vibration function.

The default configuration is **Enable Beep**; you can disable it by switch setting to **Disable** to operate Micro Pocket DVR I in silent mode.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to switch **Disable** & **Enable** option, then press button or Key to save the current configuration, press button or Key to quit the **SYSTEM / Beep** menu.

• **Menu Item – SYSTEM / CAM Volt**



Micro Pocket DVR I can power external device via power output adapter on Multi-Connect jump cable, you can power external bullet camera or external LCD monitor, you can adjust output voltage from 6V to 12V.

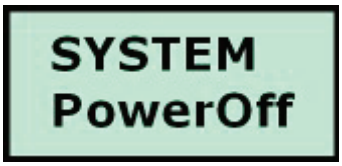
If you want to power external bullet cameras more than one, please set the output voltage lower than 11V, and you need connect AC power adapter for Micro Pocket DVR I.

The parameter voltage of output power is 12V; please select feat output voltage for external camera.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to select feat output voltage for external camera, then press button or Key to save the current configuration, press button or Key to quit the **SYSTEM / CAM VOLT** menu.

.....

• **Menu Item – SYSTEM / PowerOff**



To save the battery power, you can enable the Micro Pocket DVR I power off automatically depend on the timer that you set.

The default status of Power-Off Timer is **Disable**.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to Disable Power Off or select feat timer (5/10/15 Minutes) depending on your actual requirements, then press button or Key to save the current configuration, press button or Key to quit the **SYSTEM / POWEROFF** menu.

• **Menu Item – SYSTEM / Bootload**

This menu item display current boot loader version on your Micro

Pocket DVR I.

Press button or OK Key to display current boot loader version, press button or Key to quit the **SYSTEM / BOOTLOAD** menu.

• Menu Item – SYSTEM / Firmware

This menu item display current firmware version on your Micro Pocket DVR I.

Press button or OK Key to display current boot loader version, press button or Key to quit the **SYSTEM / FIRMWARE** menu.

After you finish all SYSTEM configuration, press button or Key to quit the **SYSTEM** menu.

12.1.3.7 BEACON Menu

Menu	Menu Item	Parameter
BEACON	BEACON LapTimer	LAPTIMER • Disable

		• Enable
	BEACON MaskTime	MASKTIME • 10 Sec
	BEACON As Split	AS SPLIT • No • Yes
	BEACON Splits	SPLITS • 0 Sec • 1 Sec • 2 Sec • 3 Sec • 4 Sec
	BEACON SysClock	SYSCLOCK • True Up

• Menu Item – BEACON / LapTimer

Default status of Lap Timer is **Disable**, please select proper beacon status to suit.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press ▲ ▼ Key to switch **Disable** & **Enable** option, then press button or OK Key to save the current configuration, press button or ◀ Key to quit the **BEACON / LapTimer** menu.

• Menu Item – BEACON / MaskTime

Default parameter of beacon mask delay is **10 Sec**, please select proper delay time to suit.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press ▲ ▼ Key to set proper value of beacon mask delay, then press button or OK Key to save the current configuration, press button or ◀ Key to quit the **BEACON / MaskTime** menu.

• **Menu Item – BEACON / As Split**

If you use Split Beacon on racing, you must switch **Split Signal Same as Beacon** option to enable it.

The default setting is **No**.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press ▲ ▼ Key to switch **No** & **Yes** option, then press button or OK Key to save the current configuration, press button or ◀ Key to quit the **BEACON / As Split** menu.

• **Menu Item – BEACON / Splits**

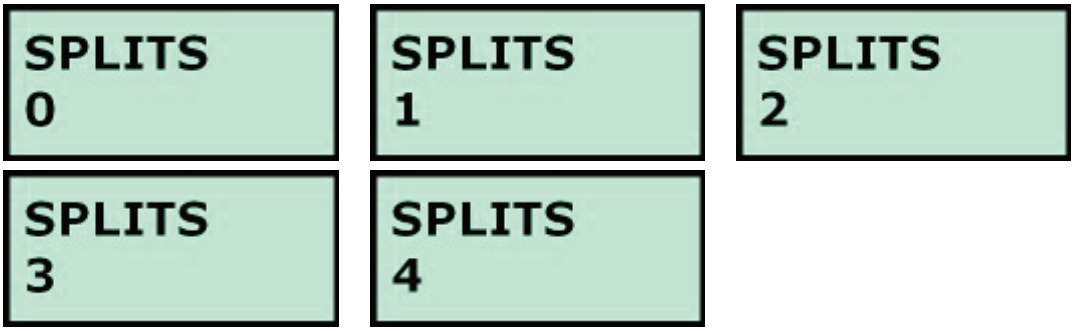
You can select the amount of Split Beacon for every loop; the maximum amount of Split Beacon is four on every loop.

If you don't use Split Beacon emitter on racing, please set the amount

of Split Beacon emitter to zero or disable **Split Signal same as Beacon** option directly.

The default configuration of the amount of Split Beacon is **zero**.

Switch **LEFT** & **RIGHT** position of 3-Position switch or press Key to switch amounts of split beacon from **0** to **4**, then press button or Key to save the current configuration, press button or Key to quit the **BEACON / Splits** menu.



• **Menu Item – BEACON / SysClock**

The system clock of the Micro Pocket DVR I need to be calibrated for accurate time recording, it is important for the Lap Timer. If you need to calibrate the system clock, press button or Key to calibrate the system clock.

After you confirm **True Up** operate, the Micro Pocket DVR I will begin to calibrate system clock.

After the system clock of Micro Pocket DVR I is calibrated successfully, the Micro Pocket DVR I will restart.

After you finish all Beacon configuration, press button or Key to quit the **BEACON** menu if you needn't calibrate system clock.

12.1.4 LCD Configuration Menu Structure

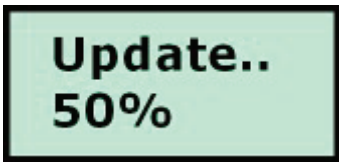
Menu	Menu Item	Parameter
VIDEO	STANDARD	- NTSC - NTSC-433 - PAL - SECAM
AUDIO	SOURCE	- Line In - Ext MIC - Int MIC
RECORD	FORMAT	- MPEG-2 - MPEG-4
	QUALITY	- LQ - EP - LP - SP - HQ
	AUTO REC	- Enable - Disable
	PROFILE	- Profile1 …… - Profile9 - Custom
OSD	STAMP	- Enable - Disable
SYSTEM	DATE	*08-10-01*
	TIME	*12:00:00*
	BEEP	- Enable - Disable

	CAM VOLT	- 12 V - 11 V …… - 6 V
	POWEROFF	- Disable - 5 Mins - 10 Mins - 15 Mins
	BOOTLOAD	V1.0.0
	FIRMWARE	08-09-27
BEACON	LAPTIMER	- Disable - Enable
	MASKTIME	*10 Sec*
	AS SPLIT	- No - Yes
	SPLITS	- 0 - 1 - 2 - 3 - 4 - 5
	SYSCLOCK	- True Up

13. Firmware Upgrade

The firmware of the Micro Pocket DVR can be upgraded if necessary. The Micro Pocket DVR will check the core image file on CF card while power up. If image & OSD file is found then the firmware of the Micro Pocket DVR will be upgraded automatically. Please follow below instructions to upgrade.

1) Format CF card in FAT32 file system.
2) Copy imge.2510.img and osd.img to the root of CF card.
3) Use **Micro Pocket DVR Desktop** to generate DEVICE.INI depended on your needs. DEVICE.INI must be under the root of CF card while upgrading.
4) Power off and then insert CF card into Micro Pocket DVR.
5) Turn on the power of Micro Pocket DVR.
6) The firmware will be upgraded after power on. The LED turns to red, then yellow and alternately flashes red and yellow several times. It takes about two minutes to upgrade.
   At the same time, LCD will display schedule of upgrade process if you upgrade from Firmware V1.0.4 or newer.

   When the Micro Pocket DVR upgrades successfully, it will reboot automatically.

   *** DON'T TURN OFF POWER DURING THIS PERIOD!!**
7) The Micro Pocket DVR will be rebooted automatically after upgrade. The LED will change to red, yellow and then green. It takes about 12 seconds to reboot.
8) Over if the LED is green. A Beep will sound one time once the Micro Pocket DVR upgrades successfully.

The file, updmgr.txt, will be found under the root of CF card. The phrase of following can be found in the content of updmgr.txt.
Kernel image: image.2510.img[Sun Oct 15 03:33:24 2006] == (Mon Apr 2 03:33:24 2007)

The date and time correspond to the version of firmware. Upgrade is successful if the date and time is the same as the data and time kernel generated.

**** Power supply has to be guaranteed normal while upgrading. Micro Pocket DVR can not be restored if upgrade fails.***

**** Wait at least 4-5 minutes till reboot successful. LED keeps constant green if reboot successful.***

14. FAQ

1) LED yellow flash
   CF card is full. Change CF.

2) LED is red
   Failure or battery is low. Use the AC power adapter or external battery pack.

3) Charging period
   It takes 5-8 hours to charge a fully discharged battery. The charge indicator LED will go out once fully charged.

4) File is not accessible or Micro Pocket DVR can't startup
   File system is wrong. This can happed after abnormal power off and long time usages of CF card. Format CF card in FTAT32 file system.

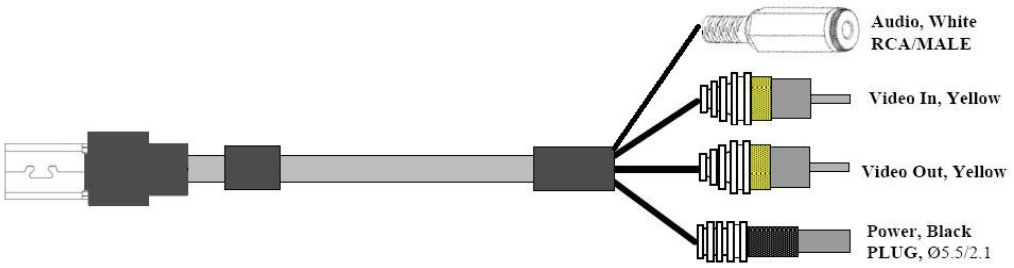
Appendix

Multi-Connect Interface on Board

1- Audio Left
2- Audio Right
3- Video Input 0
4- Video Input 1
5- Reserve
6- Reserve
7- LANC
8- CAM Power
9- GND

The number is corresponding to the pin number of Multi-Connect connector of Multi-Connect cable.

Multi-Connect Cable



Multi-Connect cable for Micro Pocket DVR I

Revision

09/27/2008, Version 2.0.3

- Improve Micro Pocket DVR Desktop Start-Up
- Motion Detection support
- Add volume gain adjust of microphone
- Improve MPEG-2 conversion
- Improve GUI
- Add shortcut key to preview system information
- Add information preview of internal battery
- Add Sync/Configure/Preview via LAN connection
- Add Auto Power-off function of Micro Pocket DVR & TFT LCD
- Adjust LCD menu
- Adjust configuration menu on Desktop
- Fix Bug

05/10/2008, Version 2.0.1

- Improve Micro Pocket DVR Desktop Start-Up
- Fix Bug

04/28/2008, Version 2.0.0

- Using Synchronize technology
- Change GUI
- Improve adjustable position support of Lap Timer
- Adjust options arrange
- Add Record Key Frame option for surveillance application
- Change some default configuration
- Change configuration file to DEVICE.INI

03/10/2008, Version 1.1.2

- Add Multi-Configuration Item
- Add Split Beacon support
- Add adjustable position support of Lap Timer
- Add new arrange method of PIP
- Add Record Key Frame option for surveillance application
- Improve upgrade process
- Improve MPEG-2 conversion code
- Change configuration file name to DEVICE.INI

10/18/07, Version 1.1.1

- Add 1M(CIF/SIF) Bitrates Encode Option
- Add 8M Bitrates Encode Option
- Add Single recording video file Cycle Record Mode

- Add Full Disk (CF Card) Cycle Record Mode
- Add Analog Menu Output for 4 Channel Micro Pocket DVR
- Replace OSD library for 1 Channel Micro Pocket DVR, Support black border of OSD font
- Improve large CF card support

09/24/07, Version 1.1.0

- Improve 4-Channel Micro Pocket DVR support
- Improve large CF card support
- Add Power-Off Timer function
- Add Cycle Record function
- Add customized LCD Display
- Add System Clock Calibrate function
- Decrease the time of starting

06/08/07

- Add on 4-Channel Micro Pocket DVR support
- Optimize LANC Remote Control support

05/08/07

- Optimize LANC Remote Control support
- Add new version IR Remote Control support
- Optimize Record on Power On function
- Add Beep/Vibration Enable/Disable option
- Add Time Stamp in two format & disable option
- Optimize Beacon support
- Optimize Micro Pocket DVR Configure Utility GUI
- Fix some bug
- Release Micro Pocket DVR Configure Utility V1.0.5 Final version
- Release Firmware V1.0.5 Image upgrade file Final version
- Release Official User's Manual V1.0.5.1

04/28/07

- Add more version LANC Remote Control support
- Add Auto Record on Boot function
- Add Beep Enable/Disable option
- Optimize Beacon support
- Release Micro Pocket DVR Configuration File Generator V1.0.5
- Release Firmware V1.0.5 Image upgrade file
- Release Official User's Manual V1.0.5

04/02/07

- Add LCD support

- Add Micro Pocket DVR status display on LCD
- Add configuration menu based on LCD
- Release Micro Pocket DVR Configuration File Generator V1.0.4
- Release Firmware V1.0.4 Image upgrade file
- Release Official User's Manual V1.0.4

02/13/07

- Add osd.img into firmware upgrade
- Release Micro Pocket DVR Configuration File Generator V1.0.3
- Release Firmware Image upgrade file

10/01/06

- Initial Release